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MILITARY AFFAIRS

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ARMED FORCES

SERVICE CONDITIONS IN AFGHANISTAN DESCRIBED

Moscow VOYENNNYYE ZNANIYA in Russian No 3, Mar 81 (signed to press 10 Feb 81) pp 4-5

[Article by Col V. Stulovskiy: "Stationed in Afghanistan"]

[Text] In their letters our readers request that we relate how the men of the limited contingent of Soviet troops performing their international duty on the territory of the Democratic Republic of Afghanistan are serving and under what conditions they are living. We publish below a piece written by a special correspondent of FRUNZEVETS, the daily newspaper of the Red-Banner Turkestan Military District, who visited a number of subunits stationed in the DRA.

In the Valleys of the Hindu Kush

Following the April Revolution of 1978, Afghanistan, which had thrown off the yoke of monarchism once and for all, established close relations with the socialist countries. This rapprochement and the policy of radical social reforms adopted by the Afghan people evoked rage in the camp of the imperialists, Maoists, and a number of reactionary Arab regimes. The situation became so critical that the government of the DRA was forced to turn to its powerful neighbor to the north for assistance. Without the military support of the Soviet Union, the brother people of Afghanistan would have been unable to withstand the intensifying aggression from outside its borders, from the territories not only of adjacent countries but also countries thousands of kilometers distant.

So now Soviet fighting men, the sons and grandsons of the famed fighting men and commanders who honorably carried out their liberation mission in the West and East during World War II, are in Afghanistan, carrying out their internationalist duty. What are they doing? How is their life?

Our officers and men live in tents, as if at a scheduled summer training camp. Conditions of course are not the easiest. In fact, living is tough. But all daily activities are in accordance with the strict army regimen, including inspection.

...Since morning they had been thoroughly sweeping the area with branches of camel's thorn. Just as in this country, curious children stood at some distance, watching the cleanup. The inspection ended with the troops marching past the inspecting officers in song. As I listened to the song, I recalled stories related to me by various persons and at various places.

...A column of vehicles was proceeding along the highway. They were hauling supplies for Afghan cooperatives and enterprises. In the village of Tashkurgan a little girl suddenly ran out into the road. The driver of a gasoline tank truck was able to veer his vehicle to the side and grind to a halt with incredible quickness. The little girl, shaking with fear, was about ready to collapse. The driver calmed her down the best he could. Soon her frightened mother ran up. Clasp ing her daughter to her breast, she offered the soldier money -- a whole wad of bills. The soldier declined the offer, puzzled: do they give money for this? The woman in turn could not understand why he would not take the money. She remained standing there in silence, clasp ing her daughter and extending the money in a trembling hand.

...Soldiers who were helping combat a flood in a village requested permission from headquarters to give their three-days food rations to the flood victims....

"Where is she going?" somebody shouted.

All of them caught sight of a woman who was running in haste down a ravine. There was a burst of gunfire....

The woman appeared to stumble and fall.

Shocked by what had occurred, the men failed to notice that a figure was rushing toward the woman. Nimbly dodging between rocks, Sgt Mikhail Zlobin reached the woman and dragged her back to safety....

There are hundreds of cases where Soviet military personnel, risking their own lives, have rescued their Afghan friends from misfortune. I am deliberately relating from the great many heroic deeds primarily commonplace events, for the great is built up of the small.

The 18 and 19-year old soldiers, their commanders and political workers, who include many products of DOSAAF and graduates of DOSAAF training organizations, are displaying courage, nobility, and amazing tenacity. Stationed out there beyond the swift-flowing Amu Darya, somewhere in the valleys of the Hindu Kush, in the baking sands of the desert, among people who have gained their freedom, they constitute an exemplary model of unswerving dedication to fine ideals and a vivid example to emulate.

It Can Be Reached Only by Helicopter....

Helicopters are the most popular mode of transportation in the DRA. Pilots and crew members are known by name not only by our motorized riflemen but also by Afghan soldiers and local activists. I remember a very reserved Afghan, upon meeting a familiar pilot, with whom he had made several flights to distant villages, farms and cooperatives, fairly bursting with joy: "Oh, Yura!" They proceeded to embrace, slap one another on the shoulder, and converse in the language of gestures, utilizing their meager vocabulary of a dozen or so words which both of them knew.

Helicopters have become extremely popular here for a number of reasons. As we know, there are no railroads in Afghanistan, and highways are also few and far between. It takes a helicopter an hour or an hour and a half to get to a destination which a

car or truck takes 24 hours to reach. In addition, bandits plant mines, set up roadblocks and ambushes on the roads, and sometimes all three together. Travel by air is fast and dependable. Therefore helicopter crews are kept busy. If somebody had told them a year ago that they would be doing so much flying, they would not have believed it. But today this has become a commonplace, although at times an extremely difficult and dangerous activity.

The counterrevolutionaries as well as their American, Chinese, Pakistani and other patrons are counting heavily on paralyzing traffic on the roads of Afghanistan. So-called "foxholes" are set up in the mountains, where they place heavy-caliber machineguns capable of delivering fire on ground and air targets.

The weather can also be capricious. This was experienced in full measure, for example, by Military Pilot 1st Class party member Capt Vladimir Rudyuk, navigator party member Lt Aleksandr Nedorezov, and aircrew technician Specialist 1st Class Komsomol member Sr Lt Igor' Khryk. This aircrew, just as others, was performing difficult missions under very tough circumstances. The weather is amazingly inconstant here in the mountains. Everything seems to be fine -- the sun is shining and there is a breeze, stirring up light clouds of sand along the ground. Suddenly the wind velocity surges to 40 meters per second. After a while the wind again abates. But the weather is deceptive.

Military service is not easy anywhere. No branch or arm of service can be called privileged. That is particularly true here in Afghanistan. All arms have their specific difficulties, peculiarities, and problems. Helicopter crews are no exception. Flying in mountains and above desert, plus the real possibility of coming under fire by antiaircraft weapons which are making their way from Pakistan to the bandits operating on DRA territory -- this is a real training school.... No wonder they say that after a month of service in Afghanistan, helicopter pilots can be readily awarded the top proficiency rating without testing their piloting ability. I could see that this statement was correct. They display not only the highest level of professional expertise but also unparalleled courage and heroism. (Let us not fear to use these words! Let us not consider them too bombastic!)

Helicopters handle a large share of short-distance hauls. Unsophisticated Afghan peasants, who until recently had not even seen a tractor, now proceed boldly to the airfield and sedately take a seat on board a helicopter, gazing affectionately at the bales of goods, crates of equipment and greenish-gray loaves of salt. One of them, chairman of a cooperative, a Pathan by the name of Audurakhman, told me that in the past the mere sound of a helicopter would send all the villagers fleeing in terror. Now they hurry to the helicopter pad as soon as they spot one of these rotary-winged friends approaching. They know that Soviet aircrews are bringing them provisions and tools. They are also bringing the warmth of their courageous, sincere, kind hearts.

As Everywhere -- According to the Book

It is said that a soldier always takes his home with him. He makes a halt, lays out his ground sheet, puts down his knapsack, and his dwelling is ready. It also takes only a moment to prepare again to be on his way. Such is his life -- he is always self-sufficient and does not trouble others.

Soviet troops set up camp outside of villages, in the middle of deserts and rocky gorges. They also procure their own water -- right on the spot, in the mountains or desert. Electricity is provided by mobile generators. Provisions and everything necessary for daily routine and training are brought in from the Soviet Union. And our fighting men generously share these resources with their Afghan friends.

...A mountain stream rushes along a valley compressed between sheer cliffs. Gray boulders are strewn chaotically along the stream banks. A few trees stand here and there, as well as stunted bushes. But even here the soldiers were able to create the maximum comfort possible under these conditions. They even set up a sports area. Commands ring out: "Mount apparatus!", and there are sounds of kicking a ball. One senses a military order in all this. The commander's firm, guiding hand.

And how could it be different? The army is strong through discipline. And discipline is built on the firm foundation of procedure laid down by regulations. On the very first days of their stay in Afghanistan, commanders and staffs delineated camp boundaries and the locations of all field camp elements. Lane between tents and mushroom-shaped sentry shelters where the enlisted personnel on fatigue duty would be stationed. Combat vehicle parking area. Supply tents. Mess tent. Lenin room or, more correctly "Lenin tent"....

The bugler sounds reveille early in the morning, at the designated hour (in Afghanistan the time difference from Moscow is an hour and a half: it is 0600 in Moscow, and 0730 in Kabul). Morning calisthenics, day's activity assignments, breakfast, dinner, evening roll call -- the same ordered routine as in any other tent camp in the Soviet Union.

But service here is much more serious. In addition to the regular daily duty detail, a genuine combat security detail goes to its posts at the designated hour. You become acquainted with the men's daily life and service, with the daily house-keeping routine, and you gain even greater respect for these men, for all these activities were performed during hours free from duty, under extremely adverse conditions. In the winter there is cold and a sea of mud. In the spring and summer there are choking clouds of dust and exhausting (much worse than our Central Asian!) heat.

Everything requires a maximum exertion here. "We were heading out for a training exercise," related one of the officers. "I saw that Private Surmin was unsteady on his feet. I waited until we reached a halt and said to him: take off your boots. I saw that he had bloody blisters on his feet, and yet he had kept going! We officers are older and have more stamina, a little better conditioning. But they were schoolboys until recently. They have been in the army only half a year or a year.... And they show such stick-to-it-iveness. They never complain about hardships."

Commanders, political workers, and military medical personnel are thinking about solutions. They tried crossing rivers barefoot. But there is another danger here: injury. You cannot see the sharp rocks under the surface of the turbulent stream. That is no solution....

It is the duty of the commander and political worker to be concerned about subordinates. Here in Afghanistan this concern assumes particular significance. Many times it is not possible, for example, to return to camp in time for dinner. And yet there is a strict army requirement: a soldier must receive a hot meal each day, no matter what the cost! This was also the case during the war. At the front enlisted men and noncommissioned officers frequently would go through hostile fire just to deliver to their company thermos jugs of borshch and porridge. Here in Afghanistan dinner is frequently delivered to personnel at field exercises... by helicopter.

I should also like to mention that within the limited contingent of Soviet troops, noncommissioned officers are also more rapidly acquiring independence. I was given the names of dozens of squad leaders and commanders of vehicles and weapons who are capable of, and who in fact frequently successfully perform the duties of platoon leader. Incidentally, the greatest attention is also devoted to noncommissioned officer personnel party-political work. This involves a regular exchange of experience and development of skills in holding brief political information sessions and individual discussions.... "Schools of courage and combat experience," organized at the initiative of Komsomol members during the period of preparation for celebrating the 35th anniversary of the Great Victory, have become quite widespread. The results of this work are reflected in practical deeds.

At a certain training exercise a company, dispositioned on mountain terrain, was "cut off" from the battalion main forces. At this moment intelligent initiative was displayed by Komsomol member Sgt Moldash Aykeshov or, as he is respectfully called, Moldash Orynbayevich. Occupying an advantageous position with his squad, he secured the company's movement to the designated position. As the higher commander commented at the post-exercise critique, this was in large measure responsible for the fact that we did not "lose" a single man. In plain language this means that nobody needed medical assistance.

Regulations are the law governing life in the military. These are the firm rules governing military personnel who are carrying out their internationalist duty on the territory of the Democratic Republic of Afghanistan. In their daily activities they are guided by Internal Service Regulations, the Manual of Garrison Duties, and the Manual of Guard Duties, and when they take to the field for exercises -- by the requirements of Field Service Regulations and the priceless experience of the heroes of the Great Patriotic War.

Plenipotentiaries of Socialism

This day was unlike other days. The news was passed from house to house, from duval to duval: that afternoon there would be a get-together at the local school with Soviet military personnel who had arrived in the area.

A great many people gathered. The Soviet military personnel of the subunit in which Capt Yuriy Otgulev serves as political worker had prepared well for the get-together. Several days prior to this, there had been a businesslike discussion between political workers of the Soviet subunit and an Afghan unit, and officials of the provincial committee of the National Democratic Party of Afghanistan. The agenda of the get-together was discussed at this meeting. The Afghan comrades stated what topics are of greatest interest to the local people and garrison soldiers.

A somewhat guarded reception greeted Private Dzharanov as he walked out on the stage. But when the latter introduced himself in the Farsi language, his last words were drowned out by applause. "I am a Tajik," he stated. "I am a representative of the Tajik Soviet Socialist Republic, one of the equal republics in the fraternal family of peoples of the USSR." Dzharanov briefly told of the industry and agriculture of his republic, about how it had been awarded five decorations, and about the life of the ordinary workers. He was followed by Private Babadzhanov. The audience did not utter a sound as the soldiers spoke, for what they were saying seemed to the audience to be improbable, a nice fairy tale.

Then the soldiers answered numerous, at times naive questions. Incidentally, by the nature of these questions one could also judge the changes which had taken place in the consciousness of the Afghan working people. As recently as January and February of last year much of what the Afghans asked would evoke smiles. They would ask, for example, why railroads existed, how many wives one can have, what is the attitude of Communists toward Muslims, whether every Russian is a boss, whether all Soviet citizens have passports, and why they are needed.... Now many Afghans speak of these "problems" with a smile. They are interested in more substantial matters. For example, what is the difference between a kolkhoz and a sovkhoz, what tasks does Komsomol perform, how is the development of industry and agriculture planned, how many trucks and tractors does a village have on the average, what cotton and rice yields are obtained, how many years must one study to become an officer, and even... how many years will it take to build socialism in Afghanistan!

And finally, the most important question: how is cooperation being carried out between the Democratic Republic of Afghanistan and the Soviet Union?

Privates Dzharanov and Babadzhanov gave detailed replies. They were acting as plenipotentiary representatives of their republic, as plenipotentiary representatives of socialism. The fact is that, when the situation requires it, each and every Soviet soldier becomes a propagandist. And there is nothing unusual in this, for he tells about the milieu in which he lives. There is no need to make anything up. It is sufficient to compare that which he sees here (and his native villages and towns looked like this prior to the Great October Socialist Revolution) with what he has observed from childhood in his own village, town and city. So that it is our socialist reality which functions as a propagandist.

...Afghan comrades spoke following the Soviet soldiers. They also had much to relate. This little town has a glorious, heroic history. Many prominent scientists, statesmen, political leaders, and revolutionaries, of whom the people are justly proud, have come from this province. They also related how enthusiastically activists had set about, after the April Revolution, eliminating illiteracy and carrying out an agrarian reform. But their pleasure did not last long. A bloody stream of counterrevolutionaries gushed in from beyond the pass, which was only 8-12 kilometers distant. Treated kindly by wealthy local landlords who had returned from emigration, they were perpetrating unprecedented acts of villainy.

All those present honored the bright memory of those who had died for the people's cause, for the revolution. The appeal to be true to the April Revolution, to defend one's freedom to the end, one's right to build a life on the foundation of the democratic laws of the DRA was met with enthusiastic applause.

The discussion, which was scheduled for only an hour to 90 minutes, continued. But nobody looked at the clock, especially when the concert commenced. The Soviet soldiers included Tajik folk songs and dances in the program. The Afghan comrades included their own original numbers.

It was a real holiday. From time to time members of the audience would run into the circle of amateur performers.

And time and again the Russian words "friendship" and "peace" rang out, words which have become cherished here....

Such get-togethers are taking place everywhere, and not only in those areas where Soviet units are stationed. Sometimes our military personnel, at the request of their Afghan comrades, travel several hundred kilometers. And there is not a single large village or town on their route where political rallies would not be held. Particularly thorough preparations are made for such trips. Films on the Soviet Central Asian republics and on Soviet-Afghan friendship are selected, as are amateur talent programs. Doctors are included in the traveling group, because in spite of the efforts of the National Democratic Party of Afghanistan and the government of the republic, the problem of medical care for the population has not yet been fully resolved.

These get-togethers strengthen the friendship between our peoples and armies and promote mutual understanding.

Of course participation in agitation and propaganda trips, political rallies and concerts is a hazardous venture. Treacherous gunshots sometimes ring out. Mines are planted on the road. But in spite of this, truth is reaching the Afghan villages. Leninist truth. Incidentally, the majority of Afghan workers and peasants speak the name "Lenin" with enormous respect, and they gaze at his portrait with reverence.

Afghan military personnel and Afghan working people feel an urgent need for contact with Soviet citizens, for each such get-together casts light on new facets of our long-standing friendship, which has become particularly strong since the victory of the April Revolution.

Soviet military personnel who are members of the limited contingent of troops are entrusted with an honorable and responsible mission. They are carrying out with honor their role of plenipotentiary representatives of socialism in Afghanistan.

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GROUND FORCES

AUTOMATIC GRENADE LAUNCHER DESCRIBED IN GDR SOURCE

Berlin VOLKSARMEE in German No 11, 1981 p 8

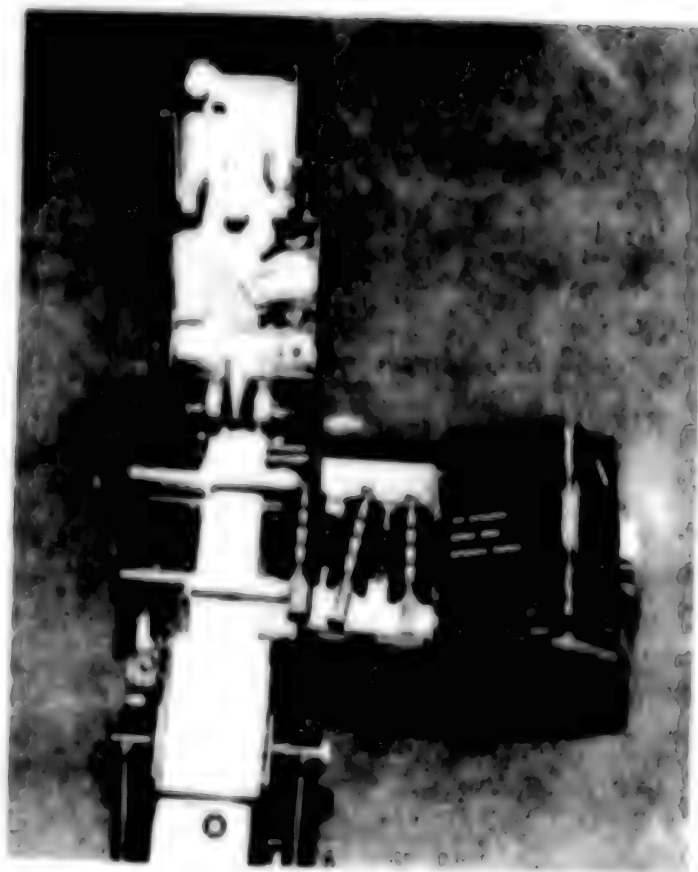
[Text] Wearing white covers on their field helmets and snowsuits, a squad of Soviet motorized riflemen can be seen moving across the winter landscape on skis. Two or three soldiers are pulling a somewhat strange weapon behind them, a weapon standing on boards, on improvised snowshoes. A metal tripod in between a compact weapon housing with a short barrel and huge ammunition drum can be recognized as the most essential components of this unknown weapon. Suddenly, there is a burst of fire; the squad has been discovered by the "enemy." With lightning speed it goes into position. One man is already in the prone position, behind the tripod, pressing his eye against the rubber eyepiece of his sights and right after that, all hell breaks loose with short bursts of fire from machineguns and the rattle of the submachineguns.

The question as to what this novel weapon is--which was illustrated in the Soviet army press for the first time about 2 years ago--will be answered right away.

Soviet technical literature refers to it as the automatic mortar [grenade launcher], called AGS-7, for short. In contrast to the conventional mortar, this one is designed as an automatic weapon. In other words, all loading operations are automatic. The energy of the powder gases, which are released upon firing, are used for this purpose. The basic principle involves a recoil-operated weapon for short and long bursts as well as sustained automatic fire.

In this way, this weapon combines not only the qualities of a machinegun but also those of a mortar.

The mortar's main components include the weapon itself (consisting of tube, weapon housing, feeder, locking, trigger, and hammer devices), the mount (subdivided into an upper and a lower mount), as well as the sight gears and the sight mount. The mortar mount can be folded up with just a few movements of the hand, so that it becomes rather small for carrying purposes. There is a carrying pouch with belts for the weapon itself so that the load can be distributed over both shoulders.



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NAVAL FORCES

SUBMARINE RESCUE TRAINING DESCRIBED

Moscow KRASNAYA ZVEZDA in Russian 27 Jan 81 p 1.

[Article by Captain 2nd Rank B. Leonidov: "The 'Kazbek' Speeds to the Rescue"]

[Text] Moonlight bathed the conning tower of the submarine. It was reflected in the face of the commander standing behind the protective bulwark. Salt spray struck and washed his face as a heavy wave struck the side of the ship. The conning tower listed as the ship's stern moved upward. It seemed as though the silvery scoop of the Big Dipper wanted to ladle up the waves of the sea.

"It's time," the commander noted to himself as, descending to the ship's main station, he gave the order for a practice alert.

"Emergency Dive!"

Sea water poured into the ship's tanks with a roar. The submariners were escaping an attack by the "enemy." However, other data followed.

"A 'Hit' in the area of compartment number two, below the waterline..."

"Fire in the engine compartment... The horizontal rudder is jammed..."

Slightly heavy at the nose, the submarine was headed for the deep. Bosun Warrant Officer N. Derbovenko read off the depth readings: 10 meters, 30 meters, 50 meters. The sub settled on the bottom. The "fire" was quickly extinguished, the "hits" were blocked off.

"Now we await a rescue vessel," the submarine's commander stated, as though he were drawing a line.

"Are we going to release the emergency buoy?" the commander of the engineering department inquired.

"According to the practice alert conditions, the buoy was torn away by a wave..."

The "Kazbek" is a special vessel, a rescue ship, whose mission is to render aid to ships in distress. The commander of the "Kazbek," Captain-Lieutenant A.

Mikhaylov, was awakened during the night by the practice alert signal. It was a surprise alert for the rescue ship.

...The boarding ramp fell onto the deck of the ship with a clatter. The froth churned up by the wake of the ship's propellers have hit the shore. The early morning wind whistled through the antennae and ship's superstructure. Senior Lieutenant O. Deyev, chief of the "Kazbek" Emergency Rescue Service, gave his divers their assignments. In comparison with his subordinates, all choice men and tall, he was on the short side. His countenance was open and pleasant, his voice soft. It was somewhat difficult to conceive that this man had to his credit many hours spent in the deep. Repeatedly he manifested his remarkable will, his self control.

On the bridge of the ship, Captain-Lieutenant A. Mikhaylov and his navigator checked out the area in which they were to search out the submarine "in distress." Headquarters had given them only the approximate coordinates. Using a grid map of the sea, the rescuers divide these into sections in order to investigate them carefully. They also recall and fall back on their wartime experience: to search for the submariners by such objects as an oil slick, pieces of debris, shattered planks bubbling up from the sea. Such a task is placed before the signalmen and the entire crew. Great hope is placed in the men manning the acoustics gear. On watch is Chief Petty Officer 1st Class I. Baranov.

The search takes a long time and is tedious. But finally, from the tone of the reflected signal, Baranov classified his target: "On bearing... The submarine."

This piece of news flashes through the ship in a second.

"Lower the operator-diver in the observation chamber!" the order of Captain-Lieutenant Mikhaylov follows.

This is in the form of reconnaissance. The diving chamber is reminiscent of a tremendous pear or an electric light bulb of gigantic size. It has a light projector and a telephone. The first search for the submarine with the aid of the diving chamber will be made by Seaman Valeriy Shemigon, an expert deep-water diver.

Deyev waves his hand at the body of the diving chamber, from which Shemigon is grinning at the porthole, and says: "Let's go!"

Overhead, the jib screeches as it lowers the diving chamber into the water. Air tightness is checked and found to be right so now the cable line can be let out. Within a few minutes, from the deep comes the hollow sound of Shemigon's voice as he makes his report by phone:

"I see the submarine. It is lying on the bottom."

The storm intensifies, a fact which worries the commander of the "Kazbek." The crew is ready to release the diving platform. Aboard it are two revolving seats for divers. Preparation of the platform is no easy matter. All the same, one

is surprised by the speed and by the thoroughness with which the apparatus is readied.

Petty officer 2nd Class A. Dremin and Seaman Yu. Lanovoy descend into the deep aboard the platform.

Deyev asks how the divers feel.

"Excellent," the voices of the seamen respond by phone. "We are keeping the submarine under observation."

Cables slide through winches as the life-support system hoses for the divers descend ever deeper in the water. The sailors are now breathing a specially prepared gas mixture. The underwater pressure is now beyond 20 atmospheres. The divers now attach a cable to the deck of the submarine. Along that cable, down to a hatch of the underwater vessel, is to descend a diving rescue bell—a tremendous cylinder which can hold several members of the crew to be rescued at the same time.

"Begin your ascent," Deyev commands.

The divers have been sent down quickly but are brought up from the deep slowly. The longer the duration of the work done down in the depths, the slower the ascent. Dremin and Lanovoy have been brought aboard ship via the diving bell but it will be some time before they breathe fresh air. Laid out on the deck of the rescue ship is a narrow-gauge track; on this, the diving bell is rolled up to the opening in the decompression chamber. The divers will have to spend a lot of time in that chamber in order to avoid the bends. In it, they can stretch out on trestle beds and read a book.

The diving bell is sent down on its underwater trip. It is a difficult matter to bring it down upon the hatch which is on the deck of the submarine. However, Warrant Officer A. Fandvukhin and Senior Seaman N. Fedorenko have perfected the art aboard the "Kazbek."

From the deep comes this report:

"We have linked up with the submarine and are getting ready to render aid to the submariners."

Deyev's tired face becomes more animated:

"Well done but proceed with care!"

The submariners have opened their hatch. The "victims," members of the crew, take up their positions within the diving bell. A careful ascent and they are greeted warmly and cordially aboard the "Kazbek." Everything has been readied for them: the medical aid which they might need, dry clothing, food, quarters in which to rest.

The divers labored with full devotion, bravery and skill both in the deep and on the deck of the "Kazbek." They have passed this severe test.

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NAVAL FORCES

RESPONSIBILITIES OF SHIP COMMANDERS DISCUSSED

Moscow KRASNAYA ZVEZDA in Russian 3 Feb 81 p 2

[Article by Admiral A. Mikhaylovskiy, commander of the Red Banner Leningrad Naval Base, hero of the Soviet Union and doctor of naval science: "A Time For Strict Criteria"]

[Text] Among the students at the Naval Academy recently, I encountered an acquaintance, a Captain 2nd Rank who wore the Gold Star of a Hero of the Soviet Union on his chest. My own eyes had seen Aleksey Alekseyevich travel the complex career path from group commander to the commander of an underwater nuclear submarine, had seen him demonstrate examples of his tactical and naval training, particularly in navigating the Arctic Sea. By the way, he has been addressed as Aleksey Alekseyevich since his days as a lieutenant, both by his equals and peers, and not just out of the Russian habit of recalling a previous "glorious figure," although their names and patronymics do coincide. The man's authority is reflected in his erudition, business-like manner and exactingness, both as to himself and his subordinates. Now, after once again gazing upon this smart-looking, manly officer, I could not but think (and this involuntarily) that he exemplifies the best features of contemporary leaders, people who fulfill their obligations with a high measure of responsibility and who evaluate the state of affairs in the sector entrusted to them on the basis of the strictest of criteria.

A self-critical and exacting approach to affairs, one which excludes complacency and which presupposes a high degree of exactingness towards both one's self and others, the unity of word and deed--these are the features which stand out most boldly in reflecting the moral and vital attitude of any member of the Communist Party, features which should be inherent in a man who is both a party member and a leader. The draft plans of the CPSU Central Committee for the 26th Party Congress again note the need to strengthen the responsibility of leaders for work results and quality.

The complex of demands which the party makes of the leadership link is realized with sufficient fullness in the work style of the sole commander, who is responsible for all aspects of the life and training of the military collective, for a high degree of combat preparedness of his ship or unit.

A commander's criteria should be particularly to the point and uncompromising with a solid, so to speak, reserve of stability and reliability and should stem from the constantly increasing requirements of modern-day warfare. It would be useful also to emphasize the specific character of a naval commander's work.

In functioning far from their bases, out in the open seas and oceans, commanders are forced to act independently--and at times immediately--in making responsible decisions affecting the fate of their ships and crews and the state interests of the Motherland. From my own experience, I can judge as to how high a commander's foresight, competency and exactingness should be, how well he should be acquainted with the over-all situation and with the morale and combat potential of his ship and crew in order that every one of those decisions is without error and is fulfilled without reproach.

The submarine which was commanded by the officer mentioned earlier in this article once had to come to the surface in an unfrozen patch of water under circumstances in which the underwater current was very strong. This required a maneuver calling for the precise touch of a jeweler together with the maintenance of the proper degree of trim required plus the given turning speed. The ship's crew did an excellent job in coping with the situation precisely because the commander had profound knowledge of his people and had trained them for this trip under the ice with purpose and exactingness and in accordance with a strict system.

While at sea, one constantly encounters situations which call for the need to make decisions based on first available information, decisions involving this or that risk and which require manifestation of, as our sailors put it, routine audacity.

An underwater noise is detected. What is it? Is it friend or foe? Is it a vessel on the surface or is it a submarine? Should one move towards or away from it? What is the distance to the target, what are the facts as to its movement? The submarine commander can only get replies to those questions from a well-trained and well-coordinated ship's combat crew--from a collective of people, each of whom possesses a high degree of training and a high measure of responsibility.

A ventilation opening has jammed--who is to be sent to work on a superstructure which is immersed in water, who is to be named to take this risk? Something is coiled around the propeller--this does happen--and a diver clad in wet suit needs to be sent underwater. Who is to be sent into a smoke-filled compartment dressed in insulated clothing to carry out an "emergency" inspection? These and similar questions do confront ship commanders both at sea and at their bases. It is only through a reliable knowledge of the situation and of his people that a commander can plan a day-by-day course for augmenting the combat qualities of his crew. But this all needs to be handled systematically, through the scrupulous selection of weak points in any of the aspects of crew training, while laying in a reserve store of everything which will, in the long run, work towards a high degree of combat capability. It is precisely with such an aim in mind that our officers G. Sluchenko and V. Gorokhov, V. Panchenko, Ya. Kantor and B. Murga are working at their posts.

Take, for example, the excellent submarine "Komsomolets Kazakhstan." Its crew has been granted the honor of participating in competitions for the Navy Prize and has demonstrated a high degree of training in them. Captain 2nd Rank B. Murga, who commanded the vessel at that time, properly evaluated in combat training the very complex tactical situation, stealthily broke through a strong enemy encirclement and, from maximum range, successfully attacked the main target.

Under complex weather conditions, a minesweeper group led by Division Commander Captain 3rd Rank V. Bankshikov functioned almost at the limit of its seaworthiness during one of these competitions. Minesweeper commanders Senior Lieutenants S. Chibirev, V. Krest'yaninov and others demonstrated their excellent training. That group won the title of the navy's best in mine searching and sweeping.

Officers Murga and Bankshikov, just like other commanders who are never satisfied with what has been achieved, are leading their people ever forward. Suffice it to look over the visitors book in the "attack" office and read the following entry in order to convince yourself: the crew of the "Komsomolets Kazakhstan" not only fulfilled its planned training assignment strictly but carried out additional training systematically during the course of the year. Moreover, each time this training was held non-typical situations, with new tactical elements added to them, were assigned. In short, within a very short period of time, this same crew mastered the practical use of torpedoes which they had never fired before.

The commander's degree of exactingness is ever more visible when manifested in official evaluations written by him. Despite the fact that we all use identical principles and methodology in forming these evaluations (which stem out of guidance documents), one actually encounters instances when the evaluation does not coincide with the real situation. To put it simply, sometimes the evaluation is rated higher than it should be. The cause for this usually does not lie in the fact that, in certain situations, the evaluation is difficult to figure out and to write up from a mathematical standpoint. It is simply that certain commanders are inclined to embellish the actual situation, to lower their criteria, and to hide circumstances under a satisfactory evaluation. There are many ways of doing this.

For example, in making a decision in combat training, one may make calculations more favorable to one's self as to the distance at which targets were observed, the probability of destroying the "enemy" and, in general, by the usual simplification of the tactical situation. Then there is the commander who, not knowing his people very well and who has doubts about their training but who wishes to be seen in best possible light, protects his subordinates and "prompts" them as to possible varieties of action. This is how we get "discrepancies" between the evaluation which is put forth and a real increase in combat mastery.

What is absolutely evident is that one should do exactly the opposite. All right, so the evaluation given today is not so high; nevertheless, it will serve, since it is based on the strictest of criteria, as a fostering factor, as an incentive for further serious work. This contrasts with the even more serious situation when a commander's higher evaluation is not only not rejected when it is checked out but is approved by headquarters and senior military leaders and is even

corrected "upwards." On the contrary, a commander is off the track if his own evaluations say, of course assignments, prove to be higher than those accorded later by headquarters. This signifies that the commander himself is not only working at low efficiency but that he is not manifesting the proper exactingness towards others and that he is not capable of evaluating what has been achieved objectively, self-critically, and in a manner advocated by the party.

It goes without saying that we do not have the right to "stick to" today's criteria because life does not stand still and requires us to use yesterday's measure on what has been achieved today. It requires us to create a reserve and to work for the future. The ability to feel the pulse of the time, to constantly maintain his ship in a state of readiness to fulfill any task at a given moment, and to function successfully in a situation which is changing sharply--these are the most important qualities of a commander.

It sometimes happens that a ship is sailing along, fulfilling its tasks at sea, and that everything is as it should be aboard it. Yet if it has to put up for repairs, then begin the failures in discipline and the appearance of gaps in the organization of ship services. Certain commanders explain this away by saying that the routine during repairs is administered by people who are less focused as to military tautness. The explanation is unsatisfactory. What it boils down to is the commander's skill, his ability to create ahead of time the proper frame of mind for this new aspect of the crew's life, to pliantly maneuver the forms and methods of organizational and educational work. In general, allusions to circumstances are mostly groundless. The exacting commander does not, under any circumstances, permit a deterioration in the state of affairs.

Success in the resolution of tasks depends, to a great degree, on how skillful the commander is in organizing the work of his officers, placing his reliance upon his party and Komsomol organizations which, in turn, depends upon how correctly he has built up his mutual relations with them. Aboard ship it is important to create "a single field" of party principles and constant exactingness. In order to make these both the norm and the natural state of mind of the crew, it is necessary not just to require skill from them but to convince them and to implant in them a feeling of pride for the good name of the ship. There are very many ways of doing this. If the commander is close to his people and is able to see the life of the crew in all of its social and moral aspects, then he knows best as to whom and how he makes his approach and as to what goals he is to get this or that collective to aim for. He will be able to evaluate their labor more objectively, to judge more precisely the bounds of his faith in people and the direction he is to take in checking upon them. In his personal contacts with his men, both in respect to the level of their subordination as well as their social level, the ship's commander inculcates in his crew his own high principles, his official and moral credo.

From their commander, people should receive their charge of assurance, courage and optimism. This charge, which Comrade L. I. Brezhnev described so clearly and convincingly in his book "Regeneration," can only come out of a man who has affirmed his authority with a true party work style, who has a high level of knowledge, the talent of an organizer, a man of outstanding personal qualities.

The core and the backbone of a commander's qualities, of his party and life positions, are his high ideology, his state approach to work, his constant dissatisfaction with what has been achieved, his ability to reflect upon the categories of days past and, from that point of view, his ability to evaluate the present-day state of affairs.

"We shall act correctly, we shall act in a Leninist manner," Comrade L. I. Brezhnev declared from the podium of the 26th Party Congress, "if, after having given proper due to what we have already achieved, we concentrate our attention upon the shortcomings which we still have and upon tasks which are yet to be resolved." These words, expressing the leading feature of a Leninist work style, inspire us to sharpen constantly the criteria for evaluating what we have accomplished and to create a solid foundation for our movement forward, towards a higher level of combat readiness.

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PERCEPTIONS, VIEWS, COMMENTS

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTS ON NATO MILITARY PREPARATIONS

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 12, Dec 80 signed to press 8 Dec 80 pp 7-13

[Article by Col I. Golovnin: 'Build-Up of Military Preparations in NATO']

[Text] There has recently been a sharp increase in the aggressiveness of the North Atlantic bloc's foreign policy course and the scope of its military preparations. Using all possible means to undermine detente imperialist groups in the West, led by the United States, have resorted to deliberate exacerbation of the international situation for purposes of justifying a new stage in the buildup of NATO's military power, ostensibly necessary to counter the "Soviet threat" also invented by them.

Under pressure from the Washington Administration, a long-term military program extending to the beginning of the 1990's was worked out for NATO. Its main objective is one of considerably increasing the combat capabilities of the armed forces of NATO nations and achieving military superiority over the Warsaw Pact states.

Militaristic forces of the United States and NATO set about the practical realization of this program, while simultaneously stepping up the propaganda campaign to condition public opinion in the nations of the West. Many leaders of these nations have repeatedly made statements about the urgent need "to add to the armaments" of the armed forces, "to modernize" them, thereby eliminating a considerable military superiority which they say the Warsaw Pact states have.

A conference on NATO problems for the next 30 years, held in Brussels in September of 1979, had the same objective--to justify the new course of accelerating military preparations taken by the bloc's leadership. Using special reports created by "competent scientific organizations" in the West, and relying upon tendentiously selected facts and appraisals by Sovietologists, the conference participants attempted to prove the need for a drastic buildup of NATO's military strength, primarily by deploying American medium-range winged and ballistic missiles in the West European NATO nations.

What are the main directions in which it is planned to achieve a considerable buildup of the bloc's combat strength over the next 10 to 15 years?

The foreign press indicates that the NATO command plans to build up its nuclear strength by increasing the number of delivery vehicles for nuclear weapons, by modernizing existing systems and creating new ones and by developing more effective ammunition.

It is planned to increase the number of delivery vehicles by deploying 464 winged missiles and 116 ground-based launchers in Europe and by increasing the authorized number of atomic artillery pieces in the ground-force formations of a number of European NATO nations, primarily the FRG.

Furthermore, the number of carrier aircraft will increase with the armament of the air forces of Great Britain, the FRG and Italy with the multipurpose Tornado tactical fighter, since it can also be used as a carrier of nuclear weapons.

We know from reports in the foreign press that beginning in 1983 American ground-based winged missiles are to be deployed in Great Britain (160 missiles and 40 launchers), the FRG (96 and 24), Italy (112 and 28), the Netherlands and Belgium (48 and 12 each).

According to the plan of American and NATO strategists, these new means of armed conflict with a range of up to 2500 kilometers, together with 108 Pershing II guided missile launchers with a firing range of 2500 kilometers, the Vulcan and Mirage IVA strategic bombers of the air forces of Great Britain and France, as well as PLARB [podvodnaya lodka atomnaya raketa balisticheskaya, i.e. an SSBN] of the U.S. Navy (in the Mediterranean and Norwegian Seas), Great Britain and France, are to comprise NATO's strategic nuclear forces in the European theater of war—the main component of NATO's so-called "triad." It is believed that the realization of the concept of creating a powerful NATO "triad," which will include nuclear forces in the theaters of military operations (carrier aircraft of the tactical aviation, operational-tactical and tactical missiles and atomic artillery) and NATO's conventional forces along with strategic nuclear forces, should insure the achievement of critical objectives in a future war, without resorting to the use of American strategic offensive nuclear forces.

It is planned to improve the delivery vehicles for nuclear weapons, along with increasing their number, primarily through the planned addition of the above-mentioned Pershing II medium-range missiles, which organizationally will become a part of the 56th Pershing Guided Missile Brigade of the U.S. ground forces in Europe. Their range is more than triple that of the Pershing IA and their accuracy is 10 times greater. The Pershing II will be equipped with a dispensing reentry vehicle instead of a single charge warhead and will thus carry not one but several nuclear charges. They will be aimed mainly at targets in the USSR.

Great Britain also plans to make its contribution to the improvement of "Eurostrategic weaponry." According to reports in the foreign press, it plans to replace four PLARB carrying Polaris missiles with five new atomic-powered submarines armed with Trident missiles.

At the same time, it is planned to update the 203.2mm howitzers in the ground forces of NATO nations in Europe by replacing the barrels, which should considerably

increase their firing range. In addition, practically all of the European nations in the bloc plan to add the new FH70 155mm howitzers to their arsenals.

The NATO leadership believes that the accomplishment of these steps to improve and increase the number of nuclear weapons should considerably raise the nuclear capability of the North Atlantic bloc. Furthermore, it can be enlarged in case of war with general-purpose forces transferred from the United States together with strategic reserves.

At the same time, it is planned to improve the nuclear ammunition for operational-tactical missiles and atomic artillery. Nuclear ammunition is being developed, for example, with increased initial radiation (neutron) for destroying personnel in shelters and tanks.

Judging from the long-range military program the buildup of the combat capabilities of NATO's general-purpose forces involves drastically improving the quality of conventional weapons and combat equipment to achieve technological military superiority over the armies of Warsaw Pact nations and to improve the combat capability of the formations and units.

In the ground forces, according to the foreign press, it is planned primarily to increase the striking and fire power and capabilities for combating tanks and air targets.

The addition of the new XM1 Abrams (USA) and Leopard II (FRG) combat tanks and updated Chieftain tanks (Great Britain) will help to strengthen the striking power of the ground forces. These are greatly superior to the present tanks of the NATO nations with respect to their combat characteristics (fire power, mobility, protective armor, fire control and target reconnaissance equipment).

The fire capabilities of the ground forces will be increased by outfitting them with the new 155mm towed and self-propelled guns, the updated 203.2mm self-propelled howitzers and volley-fire rocket launcher systems. The unit of fire for these artillery weapons will include conventional, nuclear (including neutron), chemical and canister ammunition, as well as guided missiles. They are capable of destroying ground targets at great ranges and are several times more effective against personnel and dozens of times more accurate than existing artillery systems.

At the present time NATO essentially has only the single West German 36-barrel volley-fire rocket launcher system with a firing range of up to 15 kilometers. The United States and France are developing systems with a firing range of 30 kilometers, and a system with a range of up to 60 kilometers is being developed in the FRG. Antitank canister ammunition is being created for them.

Foreign military experts believe that the antitank capabilities of the NATO nations' ground forces will be increased considerably by arming the units and sub-units with effective new weapons: helicopters armed with antitank guided missiles, Lance guided missiles with special antitank warheads and a firing range of more than 100 kilometers, rocket-launched and conventional artillery with a range of up to 50 kilometers and antitank guided missiles with a range of up to 6 kilometers.

Special emphasis is laid upon saturating the formations and units with antitank helicopters and ground antitank missile launchers. According to reports in the foreign press the ground forces of the NATO nations in Europe now have around 600 helicopters carrying antitank guided missiles. It is anticipated that this number will be increased by approximately 30 percent during the 1980's, primarily with American and West German helicopters. New antitank guided missiles with homing heads are being developed for the antitank helicopters.

A second generation of antitank guided missiles--Tow, Hot, Milan and Dragon--will have an important place in the arsenal of ground-based antitank weapons. They have a semiautomatic control system whereby the operator only tracks the target, and this provides a relatively high probability of hitting the target (more than 85 percent). In addition, it is planned to outfit the forces with a third generation of antitank guided missiles with an automatic control system during the second half of the 1980's.

It is planned to make the air defense system of the ground forces more effective by arming the formations and units with improved short- and medium-range ZRK (antiaircraft missile systems) and conventional antiaircraft artillery. For example, the obsolete Nike-Hercules and Hawk antiaircraft missile systems will be replaced with the medium-range Patriot, which, according to the foreign press, can fire simultaneously at several targets at ranges of around 60 kilometers and altitudes of up to 24 kilometers in any kind of weather.

The French-and-German-produced Roland II short-range antiaircraft guided missile system will supplement the existing Chaparral-Vulcan systems. Western experts believe that it will make it possible to destroy air targets with greater certainty at ranges of up to six kilometers in adverse weather and despite interference.

The American-produced Stinger portable antiaircraft missile systems will replace the present Red Eye antiaircraft missile systems. The new system can fire at targets on head-on or withdrawing courses and carries friend-or-foe equipment.

The antiaircraft missile systems of the NATO nations' ground forces will continue to be perfected by improving their all-weather capability and resistance to jamming, by improving their capability for firing simultaneously at several targets and their probability of hitting the targets and by reducing the response time.

The Gepard (West German) and Divad (American) all-weather, self-propelled antiaircraft artillery units are considered to be promising conventional antiaircraft artillery systems in NATO. The Gepard 35mm twin self-propelled antiaircraft artillery gun is equipped with target indication and fire control radar, has a rapid rate of fire (1100 rounds per minute) and an effective slant firing range of up to 4,000 meters, and is capable of destroying air targets flying at speeds of 450 meters per second. It is planned to arm the ground forces not just of the FRG, but of Belgium, the Netherlands and Italy as well, with this system. The American Divad 35mm self-propelled antiaircraft gun has similar characteristics. It is supposed to replace the Vulcan 20mm antiaircraft guns. NATO's military leadership wants to more than double the effectiveness of the ground forces' air defense system overall.

According to reports in the NEW YORK TIMES the ground forces of 11 NATO nations in Europe will receive 11,000 units of modern weaponry in 1980 alone. This figure includes 640 tanks, armored cars and armored personnel carriers, 500 antitank guided missile launchers, 150 ground-to-air missiles and 110 helicopters.

Development of the NATO nations' air forces is designed to achieve the optimal ratio of specialized and multipurpose aircraft capable of performing all the tasks assigned them, using both conventional and nuclear weapons.

It is planned to considerably increase the combat capabilities of NATO's air formations with only a small increase in the number of aircraft (two-three percent) by outfitting them with improved airborne equipment and with the all-weather capability and good aeronautical characteristics of the latest aircraft, which the air units are scheduled to receive or already receiving (F-15, F-16, A-10, Tornado and Alpha Jet). Foreign experts estimate that these aircraft, combined with promising combat control and reconnaissance systems, will be able to participate with adequate effectiveness in the performance of missions involved in gaining air superiority, isolating areas of combat operations, providing direct air support for the ground forces and conducting aerial reconnaissance.

The NATO leadership believes that these aircraft, armed mainly with guided weapons, will be able to destroy mobile spot targets on the ground, destroy permanent facilities and engage in air battles with considerably greater effectiveness than the aircraft presently in the inventory of the air forces of NATO nations.

The large-scale delivery of the latest types of aircraft to the air forces of 11 nations in the European group was begun in 1980. While these types of tactical fighters presently account for only 5 percent of the total number in the NATO air forces in Europe, the figure will increase to around 30 percent by the end of the 1980's, when the bloc completes its long-range military program. The F-15 and F-16, Tornado A-10 and Alpha Jet tactical fighters, together with F-111, Jaguar and Mirage F-1, will comprise the main strike force of NATO's combat aviation.

In order to raise the effectiveness of the air forces, the NATO command is making provisions for the extensive use of air defense reconnaissance planes and fighters, in addition to tactical fighters, against ground targets. The former are being equipped with additional assemblies for the suspension of bombs, missiles and containers for aircraft cannons. According to information published in the foreign press, for example, all of the F-4E reconnaissance planes of the FRG Air Force have already been outfitted with these additional assemblies, and the crews are training under the program for fighter-bombers. Every combat aviation crew is thereby being prepared to perform at least two basic types of missions.

In the general-purpose naval forces it is planned to further perfect and develop the assault, ASW warfare, minesweeping and landing forces, as well as the mobile systems. It is planned to raise the combat capabilities of the fleets as a whole by at least 30-70 percent, while keeping the total number of navy ships and aircraft practically at the present level. The combat strength of the U.S. Navy will continue to include 13 aircraft carriers, of which 2 obsolete carriers (the Coral

Sea and the Midway) will be replaced with atomic-powered carriers of the Chester W. Nimitz class. Construction will be started on new guided missile cruisers equipped with the Aegis antiaircraft guided missile system, Harpoon antiship missiles and modern Tomahawk winged missiles, as well as guided missile destroyers and frigates with increased capabilities for combating surface ships, submarines, and enemy aircraft, and the construction of a series (a total of around 40) atomic-powered submarines of the Los Angeles class will be completed.

In the U. S. Navy it is planned at the same time to renew the aircraft fleet of the carrier-borne and coastal patrol aviation and the Marine aviation. In the carrier-borne aviation the A-7E deck-landing assault planes will be replaced with A-18 light assault planes, and the Phantom II F-4J fighters will be replaced with Hornet F-18 and Tomcat F-14B fighters. The ASW squadrons will be equipped with the new Viking S-3A aircraft, Seahawk helicopters and other aircraft.

It is planned to outfit aircraft of the coastal patrol aviation with improved airborne equipment, ASW weapons and reconnaissance equipment.

In the 1980's the Marine aviation will receive the fighter-assault version of the F-18 aircraft and the new Harrier assault planes.

In the British Navy it is planned to continue renewing and improving the fleet of ships, planes and helicopters. First of all, the construction of two invisible-class ASW cruisers, which carry 5 to 10 planes and 10 to 12 helicopters, is to be completed, and the construction of more than 10 new guided missile ships is to be accelerated.

Development of the naval forces of other European NATO nations will consist in further increasing their capabilities for combating surface ships, submarines and enemy aircraft by arming the fighting ships with guided missiles. Such nations as the FRG, Denmark, Italy, Greece and Turkey, whose naval forces are concentrated mainly in enclosed naval theaters of military operations, are giving special attention to the construction of missile and torpedo boats, as well as to the creation and updating of antimine ships with remote-control minesweeping and mine-destruction equipment.

The above measures to arm the general-purpose forces of the NATO nations with modern weapons and combat equipment are being supplemented under a long-range program with a group of measures to improve control and communication, the conduct of radioelectronic warfare, technical material supply and the infrastructure.

Improvement of the strategic troop deployment system and speeding up their preparation for entering a war have an important place in the plan for accelerating NATO's aggressive military preparations. Great importance is attached to reducing the amount of time required to transfer reinforcement troops from the United States and Canada to Europe and rapidly increasing the number of formations to be transferred.

Foreign military experts believe that the United States is presently capable of air-lifting to Europe within 10 days the personnel of three so-called "dual-based" divisions or one division complete with weapons and combat equipment, as well as

40 combat air squadrons. It is planned to increase the numbers which can be transferred within the same period of time to 5-6 and 60 respectively in the future, however.

The NATO command is planning to increase the number of formations which can be transferred within a brief period of time by the additional stockpiling of weapons in Europe for another three formations (this is presently done for three "dual-based" American divisions and one armored regiment) and expanding the capabilities of the U.S. Military Air Transport Service by increasing the number and improving the quality of the aircraft involved in air-lifting troops across the ocean.

Provisions are simultaneously being made for the extensive use of naval transport facilities of the NATO nations for transferring heavy weapons, large pieces of equipment and materiel by sea, so as to use aircraft for air-lifting personnel alone.

The foreign press reports that the command and staff of NATO's Combined Armed Forces in Europe worked out a plan as early as 1977 for the rapid reinforcement of groupings of forces in European theaters of military operations, whereby 1.5 million men, 12 million tons of various kinds of cargo and 100 million tons of fuel would be transferred from the United States immediately prior to the beginning of a war. Around 16,000 trips by C-130 planes would be required to transfer (mainly by air) the personnel alone, and 560,000 tons of fuel would be used, 50 percent of which it is planned to have in Europe.

Most of the cargo hauls would be made by sea and would involve all of the commercial vessels of the United States and 600 from the European NATO nations, including around 250 tankers. After the main transfers have been made, within a month from the beginning of a crisis situation, up to 1,000 vessels of various types will be required on a monthly basis as a regular supply line for the American reinforcement troops.

Recently, the White House administration has persistently attempted to have certain of its European NATO allies make territory in their nations available for the construction of depots to house the weapons for the three additional "dual-based" divisions mentioned above. A total of more than 130 million dollars was allocated for their construction in the U.S. budget for the 1979/80 fiscal year. It is planned to build these facilities in the FRG, Belgium, the Netherlands and Luxembourg. Up to 700 tanks and around 5,000 units of other combat equipment are to be stored in Luxembourg alone.

The United States has also systematically pressured the governments of Norway and Denmark to agree to locate weapons and combat equipment for the American replacement troops in those countries. It was reported in the press that the Norwegian government gave in to White House pressure and signed an agreement at the end of March 1980 permitting the presence of American military personnel in that nation, and then approved a decision to locate heavy weapons and combat equipment for a U. S. Marine brigade in Norway. It had previously given its permission for the storage there of weapons for British and Canadian troops.

A similar agreement is being prepared with the government of Denmark, where it is planned to build arms depots for British and American forces totaling at least 20,000 men. Foreign experts estimate that Denmark already has several first class airfields ready to receive aircraft of the NATO allies, as well as 16 ammunition and fuels and lubricants depots designated as support facilities for air force units transferred there.

In addition to the above-mentioned steps to build up NATO's military power in Europe, the bloc leadership is constantly endeavoring to improve the operational and combat training of staffs and troops as one of the forms of militaristic preparations.

Pursuing NATO's coalition military strategy, which is taking on a more clearly defined aggressive trend by the year, staffs and troops of the bloc are preparing for war against the Warsaw Pact nations in a specific (European) theater of war, using conventional and nuclear weapons.

The series of fall exercises and maneuvers like Autumn Forge, which have been conducted annually since 1975, have assumed unprecedented scope. They make it possible for the NATO leadership to run through plans for unleashing and conducting a war in the specific situation of the European continent within a period of two to three months. An operational situation is created in which military operations are begun practically simultaneously in all the theaters of military operations, which activates NATO's entire military machine. According to foreign press reports more than 300,000 men of the combined and national armed forces participate in these exercises at one time, and the operational plans of NATO headquarters and those of the individual NATO nations are worked out and coordinated. During the maneuvers all of the branches of armed forces run through the basic missions assigned to them in case of war.

Foreign military experts believe that this system of conducting joint exercises with the national and combined armed forces is sufficiently effective and, furthermore, it makes it possible to conceal the real plans of the NATO strategists behind the pretext that these are only small-scale exercises, unrelated and organized for the most part according to national plans.

And so, these few measures being carried out in NATO to expand the scope of its military preparations constitute a real threat to the cause of peace. The plans being perfected by imperialist circles in the West, aimed at preparing for a war of aggression, demand that fighting men of the Soviet Armed Forces increase their vigilance and that they be maintained in a constant state of combat readiness.

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PERCEPTIONS, VIEWS, COMMENTS

NATO'S EUROPEAN TRANSPORTATION ROUTES

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 12, Dec 80 signed to press 8 Dec 80 pp 20-25

[Article by Col A. Alekseyev: "Lines of Communication and Transportation System of European NATO Nations"]

[Text] Ground lines of communication, which are essential to all the armed services, especially the ground forces, constitute one of the most important elements in the operational equipment of NATO's European theaters of military operations (TVD). The command of the aggressive North Atlantic bloc believes that it would be difficult to conduct the mobilization, concentration and deployment of troops without detection, or the regrouping of personnel and equipment in theaters of military operations, without an adequately developed and properly prepared system of communications.

The number and the average density of lines of communication determine the conditions for the movement of troops from the rear areas, their maneuvering and supply organization, and affect the operational configuration, rates of advance and possibilities for the use of various branches of troops. Foreign military specialists have estimated that it takes six times as long to move up a motorized infantry division over a single route and deploy it as it does when three routes are used.

Practical steps are therefore being taken in the Western European NATO nations to create a branching system of ground communications with a large traffic and transport capacity, difficult to put out of operation, and to replace motor transport equipment and the rolling stock of the rail transport system. The condition, the number and the technical capabilities of lines of communication are not identical in the different European theaters of military operations, however, and each of them has its own peculiarities. Information on the length of railways and roads, taken from recent publications of the foreign press, are presented in Table 1.*

* [Tables omitted from translation.]

Railways

The railways in the Northern European theater of military operations are extremely unevenly developed. There is an average of around 2 kilometers of railways for each 100 square kilometers of territory. In northern Norway there is only one railway (Trondheim-Bodo). The rail transport network is more highly developed in the southern part of the country. The handling capacity of the main railroad lines is 30 to 40 pairs of trains in a 24-hour period. Freight trains move at an average speed of 40 kilometers per hour, while passenger trains travel at around 55 kilometers per hour. The largest and most important railway junctions are in Oslo and Trondheim.

The Western press points out that the railways of the Jutland peninsula and Scandinavia are poorly linked together. Traffic between Denmark and Norway, for example, passes through Swedish territory by means of ferry crossings on two routes. Recent years have seen a drastic reduction in the length of the lines in use, due to the closing of unprofitable sections, as a result of which the freight load and the effective use of the main lines have increased considerably. The railroads there have been preserved, however, and can be rapidly activated if necessary.

There is a fairly dense network of railways in the Central European theater of military operations, which, according to foreign specialists, are in good physical condition. In addition, there is a considerable quantity of rolling stock and engines in this theater, as well as a physical plant for the repair of railroads. Because of this foreign experts believe that this theater of military operations has the greatest possibilities with respect to preparing for and conducting large offensive operations involving large number of troops and combat equipment.

This theater has approximately 10 longitudinal and 10 meridional routes. They make it possible to maneuver troops extensively and to select bypass routes in case of damage to or the halting of traffic on a certain section. The railroad track in all the nations located in this theater of military operations is the same--1,435 millimeters; the permissible load per axle of rolling stock is 20-24 tons; the single-track lines can handle as many as 45 pairs of trains in a 24-hour period, while the double-track lines can handle 80 to 100.

There is a total of 72,500 kilometers of railway lines, of which 32,000 kilometers have two or more tracks. There is as much as 9 kilometers of railways for each 100 square kilometers of territory. The railways in this theater of military operations have been modernized considerably, beginning in the 1960's: Some of them were electrified (Figure 1 [illustrations omitted from translation]); the latest in automatic and remote control devices were installed; the dispatcher service was centralized; and cargo handling operations at railway junctions and stations were mechanized.

Railways in the Central European theater of military operations are linked by several lines with the railway network in the Southern European theater. They are capable of handling a total of up to 500 pairs of trains in a 24-hour period. The

Western press attaches the greatest operational importance to the Munich-Innsbruck-Verona, Basel-Bern-Novara and Lyons-Turin lines.

In the Southern European theater of military operations Italy has the densest network of railways. Three double-track main lines with a total handling capacity of around 250 pairs of trains in a 24-hour period link the southern part of the nation with the north. They are intersected latitudinally by the double-track Turin-Milan-Verona-Trieste line. Twelve rail routes link Italy with contiguous states: two with France, three with Switzerland, three with Austria and four with Yugoslavia. Foreign experts consider the lines to be in good physical condition. It is fairly complex in structure, with numerous bridges, viaducts and tunnels.

The railways of Greece are among the least well developed and most poorly equipped in Western Europe. They are almost all single-track lines with a low handling capacity of no more than 20 pairs of trains in a 24-hour period.

Turkey's railway system covers the entire nation relatively evenly. Two main lines run from east to west, linked together and with ports on the Black, Marmara, Aegean and Mediterranean Seas by four railways. Practically all of the railways are single-track and have a small handling capacity of 15 to 25 pairs of trains in a 24-hour period. Their physical state is considered unsatisfactory: More than 70 percent are in need of reconstruction, and 60 percent of the hauls are made with steam engines. Two train ferries cross the Bosphorus strait.

In the European theaters of military operations, according to the foreign press, the number of diesel and electric locomotives has increased considerably in recent years in the Western European NATO nations, becoming the main means of haulage. The amount of rolling stock has been reduced and altered somewhat. New, heavy rail cars are replacing the obsolete boxcars and open cars.

Data on the quantity of rolling stock on railways of the European NATO nations are presented in Table 2.

Roads and Highways

Roads in the Northern European theater of military operations are extremely unevenly developed. In Norway almost all of the roads are in the southern part of the country. The E6 Oslo-Kirkenes highway, which, according to foreign experts, is of strategic importance, runs to the northern regions. The configuration of the roads is fairly complex, with sharp turns and long climbs.

Truck hauls are made between Denmark's largest cities over 22 main roads with a combined length of 2700 kilometers. According to reports in the foreign press, the most vulnerable spots on most of the roads are the ferry crossings by means of which motor vehicle communication is maintained with the Scandinavian countries.

Foreign military experts feel that the nations in the Central European theater of military operations have a well-developed network of good roads, which provides a selection of frontal and lateral roads running in any direction. A considerable

amount of work has been carried out within the theater over the past 10 to 15 years to bring the condition of the roads up to certain standards and to improve transport links between the countries. All of the states are now linked by high-speed highways (Figure 2), which in wartime would become extremely important transport lines designated for moving troops and delivering various kinds of military freight. The high-speed, main highways can handle as many as 30,000 to 40,000 motor vehicles in a 24-hour period, the first-class national highways--10,000-12,000.

The roads have large number of bridges (Figure 3), viaducts, overpasses and other engineer works. Western military experts feel that damage to these on certain routes could result in the piling up of troops and disruption of normal rear support for their combat activities.

The Alpine mountain range with a total length of 1900 kilometers is a major obstacle to motor transport in the Southern European theater of military operations. It is intersected by 22 trans-Alpine roads, which have numerous bridges, tunnels and protective walls.

According to information carried in the foreign press, Italy's roads have a large traffic capacity, are in good physical condition and together with the railways are capable of performing military transportation operations both in peacetime and in time of war. Recent years have seen the intensive construction of high-speed highways in the nation, and only the FRG is ahead of Italy in the development of these.

Greece has roads and highways mainly along the coastal area of the Aegean and Ionian Seas and in the eastern part of Macedonia. Five routes lead to the nation's northern regions, the total capacity of which does not exceed 40,000 motor vehicles in a 24-hour period.

In Turkey the network of roads and highways is more highly developed in Eastern Thrace, around the Black Sea straits and in the eastern part of the country adjoining the Soviet Union. The structure of the network of roads provides six latitudinal routes leading through mountain passes to the Soviet Transcaucasus and Iran. Around 20 roads with various types of surfaces run from the Black Sea coast to the interior of the country.

The quantity of motor transport equipment and its distribution among nations of the European theaters of military operations are shown in Table 3.

Inland Waterways

The inland waterways in the Northern European theater of military operations are poorly developed and have an insignificant role in the overall transport system.

In nations of the Central European theater of military operations they present a dense network of navigable rivers and canals (Figure 4) comprising a single water transport system closely linked with naval lines of communication. Their combined length is 19,850 kilometers, including 9,420 kilometers of navigable rivers and 10,430 kilometers of canals.

The river system of the FRG consists of the Elbe, Weser, Ems, Rhine and Danube Rivers and their tributaries. The largest canals are the Ems-Weser-Elbe, Dortmund-Ems and Kiel. It is planned to complete construction of the Rhine-Main-Danube Canal by 1983.

The system of inland waterways in Belgium and the Netherlands is based on the Schelde, Maas and Rhine Rivers and their tributaries, as well as navigable canals. France's most important water arteries are the Rhine, Seine, Loire, Caronne and Rhone Rivers.

In the Southern European theater of military operations transportation by inland waterways is possible only in northern Italy, where the Po River and its canals form a navigable system. It can handle ships with a carrying capacity of up to 600 tons. This kind of lines of communication is poorly developed in Greece and Turkey and is of no practical importance in the overall freight transport system.

In recent years, despite a sharp increase in the specific portion of motor transport operations, the transportation of freight on inland waterways has increased somewhat for the main Western European states, and mixed transport operations have come to be used more extensively.

Foreign military experts believe that in wartime military equipment, fuels and lubricants and other troop supplies will be transported by river, along with civilian freight. This form of transportation will be more extensively used in the zone of communications, where it can take over part of the rear services transportation operations. The Western press states that should permanent bridges be damaged, it will be the job of the river fleet to insure continuity of military rail and motor transport operations by using its vessels to ferry freight across the bodies of water.

For this purpose such nations as the FRG, Belgium and the Netherlands are adding modern new vessels to their river fleets, equipping and improving moorings and wharves, and outfitting port management agencies with more productive cargo handling machinery. Dredging operations are also being performed, and shipping and navigation conditions are being improved on rivers and canals.

The slow movement of the vessels is a significant shortcoming of inland waterways. Furthermore, foreign military experts consider locks, bridges, tunnels and other such structures to be vulnerable spots and assume that putting them out of operation would totally disrupt navigation for a considerable distance.

And so, according to information carried in the foreign press, nations of the Central European theater of military operations have the most highly developed network of various lines of communication, which makes it possible to support preparations for and the conduct of large offensive operations. Improvement of the lines of communication and transport of the Western European countries is a part of the advance measures being carried out by the command of the NATO bloc to prepare for an aggressive war against the Soviet Union and other nations of the socialist commonwealth.

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PERCEPTIONS, VIEWS, COMMENTS

U. S. ARMY'S COMBAT READINESS EVALUATIONS

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 12, Dec 80 signed to press 8 Dec 80 pp 33-37

[Article by Eng-Col I. Loshchilov, candidate of technical sciences: "An Assessment of the U.S. Army's Combat Readiness"]

[Text] American imperialism relies upon war as the main means of achieving its hegemonistic ambitions. The possibility of rapidly utilizing military force in regions in which the "vital interests" of the United States are affected is therefore considered to be an absolute condition for the implementation of American policy. The combat readiness of the troops is the key issue. "This is our strategy," stated the army chief of staff in one of his speeches. "Our entire system of planning, preparing the budget, manning, training and outfitting the forces leads toward a single goal, that of having an adequate quantity of well-armed soldiers capable of fighting at any time and any place...."

According to reports in the foreign military press, the U.S. armed forces have adopted a system of operational readiness, which includes five degrees of readiness (Nos. 5, 4, 3, 2, and 1). These indicate the kind of activity the troops perform, their condition and specific steps being taken to achieve the required level of men and equipment. The highest readiness degree is No 1 and the lowest is No 5, which indicates the normal state of the armed forces in peacetime (these will not be discussed in this article).

In addition to the degrees of operational readiness, combat readiness levels (four) have been worked out. They describe the actual condition of formations, units and subunits of the U.S. ground forces and their ability to conduct combat operations.

U. S. army regulations state that the first level of combat readiness indicates the formation's ability to fully perform the missions assigned it. For formations stationed in the continental United States, this means the ability to deploy rapidly, without additional reinforcement. For formations stationed overseas, it is the ability successfully to conduct the combat operations specified by operational plans. The second level means that a formation is capable of carrying out with slight limitations all of the missions which it should be able to perform at full numerical strength. Among other things, foreign experts state that at this level of combat readiness formations stationed in the continental United States require certain reinforcements, while they are considered fully combat-ready for

performing combat operations in overseas theaters of military operations. The third level means that a formation is capable of performing the missions assigned it, but with considerably reduced combat effectiveness. If necessary, however, it can be deployed and called upon to conduct combat operations. The fourth level means that a formation is incapable of performing the missions assigned it without being reinforced substantially or reorganized, and can only be called upon to perform individual missions in combat operations when the need is extremely great.

There are three main indicators of a formation's combat readiness level: personnel, weapons, combat training.

The foreign military press reports that determination of the combat readiness of a subunit (battalion and lower) based on the personnel criterion takes into account such factors as its overall strength with respect to personnel, servicemen in the main military occupational specialties (VUS) and officers' cadres, as well as the interchangeability of personnel (defined by the ratio of servicemen assigned to new duties within the past three months to the total strength).

The fact is stressed that the main factors are the first three, which are defined in percentages as a ratio of the actual numerical strength of various categories of personnel to TOE strength. A subunit's combat readiness level is assessed at the lowest of the values for these factors. With the overall strength and the number of military personnel in the military occupational specialties at 90 percent, for example, and with officer cadres at 70 percent of the TOE number, a subunit's combat readiness with respect to personnel would be the third level (see Table [Table translated in following paragraph]).

The following are the main indices of combat readiness levels: Personnel) overall strength; level one--at least 95 percent, level two--85-94 percent, level three--75-84 percent, level four--less than 75 percent: numerical strength in main military occupation specialties; level one--at least 86 percent, level two--77-85 percent, level three--68-76 percent, level four--at least 68 percent: numerical strength of command personnel; level one--at least 86 percent, level two--77-85 percent, level three--68-76 percent, level four--at least 68 percent. Weapons, computed on the basis of 90 percent of the total quantity of weapons) total equipment; level one--at least 90 percent, level two--80-89 percent, level three--70-79 percent, level four--less than 70 percent: provision with basic combat equipment; level one--at least 90 percent, level two--80-89 percent, level three--70-79 percent, level four--less than 70 percent: overall readiness of weapons; level one--at least 90 percent, level two--80-89 percent, level three--70-79 percent, level four--less than 70 percent: readiness of basic combat equipment; level one--90 percent, level two--80-90 percent, level three--70-80 percent, level four--less than 70 percent. Combat training) amount of time required to complete the training within a division, brigade or battalion; level one--up to two weeks, level two--three-four, level three--five-six, level four--more than seven weeks: amount of time required to complete the training within a company, a battery or lower subunit; level one--one week, level two--two, level three--three-four, level four--more than five weeks.

When determining the combat readiness with respect to weapons the American experts take into account the overall provision of weapons, including basic military equipment (defined as the ratio of actual to authorized quantity), its overall readiness (the ratio of the number of days of insured efficient functioning of available weapons and combat equipment to the total period used in the computations), and the readiness of the missiles in units and subunits armed with Pershing, Lance, Nike Hercules and Hawk missiles (computed as a percentage of the time during which they will be in one or another state of operational readiness).

This level is computed from the lowest of the four indices described in the table. All indices would have to be at least 90 percent for the first level of combat readiness, for example.

American regulations and manuals point out that combat training is one of the basic criteria for a real assessment of the state of combat readiness of any military formation. This takes into account the level of training of the personnel (as defined by the number of weeks required to complete the training of the personnel, for them to acquire the necessary skills and to achieve well-coordinated performance within the subunit, unit or formation) and limiting factors hampering the achievement of the required combat readiness level.

The combat readiness level with respect to a subunit's combat training is determined from the first indicator. If a company requires three weeks to complete the training of the personnel, for example, then its combat readiness is at level three.

A commander determines a subunit's overall combat readiness level from the three main indices described above, taking other information into account when necessary. The overall level, according to Western military experts, cannot be higher than the training level of the personnel.

The overall combat readiness level for a formation is determined from the combat readiness levels of its subunits. According to U.S. army regulations, its organic subunits are divided into three categories for this purpose. The first category includes infantry, tank and reconnaissance subunits, the second--artillery, and the third--support subunits. Composite combat readiness indices for the personnel and weapons are calculated from the averaged combat readiness level for subunits in the given category. If the averaged combat readiness level for personnel is less than 1.54, for example, then the composite indicator for this category of subunits will be 1; if the averaged level is within the range of 1.55-2.44, the composite level will be 2, and so forth.

The procedure for determining the composite indicator for personnel training is more complicated. First of all, incoming reports, inspection findings and performances in exercises are used to determine the tasks which a formation is capable of performing at the given combat training level. A comparison of these with operational plans indicate the tasks which it is incapable of performing, and an estimate is made of the time required to train the subunits to perform them. This time defines the training level of the personnel overall.

This is the standard procedure for determining combat readiness for all subunits, units and formations of ground forces. The American command believes that it permits commanders at all levels to always have necessary information on the state of the troops and to compile and submit reports to higher headquarters on a timely basis, as well as to take steps to maintain the combat readiness of the subunits, units and formations at the proper level.

The foreign press underscores the fact that the procedure for preparing and submitting reports on the combat readiness of the troops is of considerable importance. It is strictly prescribed by American manuals and regulations. The procedure is essentially the following: Each subunit, beginning with the company or its equivalent, submits a formal report to higher headquarters by the 20th of each month. This report describes the basic indices and the overall combat readiness level and also explains the reasons for any drop in the level. In compiling the report the commander uses special tables listing more than 140 factors which could contribute to a drop in the combat readiness level. The higher commander is not authorized to change a single indicator, but can only explain his opinion in a special commentary. At the division headquarters, where the reports are ordinarily received on the 21st day of the month, they are processed, transferred onto punch cards and transmitted over automatic communication channels to the appropriate command elements of the ground forces. There they are checked, studied, summarized in a "Report on the State of Combat Readiness of the Ground Forces" and sent to the Joint Chiefs of Staff (ordinarily on the fifth day following the 20th of the month). Western military experts believe that this method of routing reports makes it possible for the nation's higher military leadership to have a fairly complete picture of the state of combat readiness among the ground forces by the end of a week.

Copies of the report are simultaneously sent to the joint commands of the U.S. armed forces in the zones. This and other incoming documents are used there for compiling a "Memorandum on the Combat Readiness of the Troops," which contains an assessment of each division's combat readiness and describes the overall level of combat readiness for the joint command. In addition to this, twice a year the Joint Chiefs of Staff receive a report summarizing the combat readiness of the forces.

Reports on combat readiness are also transmitted by another, slower route. It involves a process of more thorough analysis and summarization of the information, the development of proposals and the preparation on this basis of composite reports for the superior command.

The foreign press reports that the bulk of the report analysis work is performed at the command elements of the ground forces, which receive a flow of summarized reports on the combat readiness of subordinate formations. These indicate the personnel, weapons and combat equipment strength of the formations and their readiness, and contain information on the number of formations which have not achieved the prescribed combat readiness level, and so forth. This information is used to prepare an overall report (Blue Book for command elements of the ground forces in the continental United States, for example), which provides the most

complete description possible of the state of combat readiness of the units and formations, together with recommendations for improving it.

These reports, together with reports from the formations and individual units, are sent to the U. S. Army Headquarters, which is regarded as the main agency for thoroughly studying all of the incoming documents. It prepares monthly, summarized reports on the state of the ground forces, which are distributed to various directorates, headquarters and command elements in charge of material and technological support, bringing the personnel up to prescribed strength and training them. They contain information on the deployment of the main formations, summarize reports on their combat readiness, commentary by the formation commanders, a list of the units in which combat readiness is below the required level, descriptions of changes occurring in the combat readiness levels and forecasts for the immediate future. They also describe the reorganization and rearmament of the formations for use by staff leaders themselves. These summarized reports are used for updating and refining the "Assessment of the Combat Capabilities of the Ground Forces" and for working out practical measures to improve the combat readiness level of formations and units of the ground forces.

The actual implementation of recommendations and instructions for improving the combat readiness level of the forces is carried out by subunits of the staffs of the ground forces command in the continental United States and in the zones. For example, the personnel directorate initiates measures to redistribute the personnel, issues instructions to corps and division commanders on the most expedient use of the manpower and when it is impossible to meet the personnel needs of the units, submits requests to the U.S. army headquarters.

A considerable amount of work is also performed in the combat formations themselves. Special combat readiness support centers have been created at the headquarters of corps stationed in the continental United States. Their job includes the study of reports from subordinate units and instructions arriving from superior command elements, and the preparation of summaries for the commander. Each month the corps commander receives reports from the formation commanders on the combat readiness of subordinate troops. He receives preliminary statements from the commanders and the predicted combat readiness level for the end of the month. The foreign press reports that it is planned to create similar combat readiness support centers for the 5th and 7th Army Corps in Europe.

Inspections, plans for which are worked out in each corps, are considered an important means of determining the actual state of combat readiness. They include surprise alerts for the units, verification of the fulfillment of measures to improve the training level of the personnel and the unity of the subunits, and so forth. The inspection results are compared with evaluations contained in the reports and serve as an effective means of verifying the objectivity of the latter.

Reports indicate that this procedure for submitting and analyzing information on combat readiness is being continuously perfected. The evaluation criteria are being adjusted and altered. New, formalized report forms are being developed to facilitate the use of computer equipment and automatic communication systems in the process, and the procedure for interaction among command elements is being simplified. The American military leadership believes that all of this should contribute to the further improvement of combat readiness among the forces.

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PERCEPTIONS, VIEWS, COMMENTS

NATO'S AVIATION, AIR DEFENSE CONTROL SYSTEM

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 12, Dec 80 signed to press 8 Dec 80 pp 51-55

[Article by Lt Col Yu. Nikolayev: "Control of NATO's Combined Air Forces and Air Defense in European Theaters of Military Operations"]

[Text] It is the opinion of foreign military experts that in the modern situation the success of combat operations, especially during the initial period of a war, will be determined not alone by the quantitative and qualitative balance of power of the sides, but also by the effectiveness of the control systems. Constant attention is therefore given to questions of control of the combined armed forces of the aggressive NATO bloc as a whole and the combined air forces (OVVS) and air defense system specifically. According to reports in the foreign press, control of NATO's combined air forces and air defense system in Europe is based on the following main principles: centralization, flexibility and reliability, and a high level of combat readiness on the part of control systems.

Centralization of control means that control is under unified direction exercises by the commanders of the OVVS [combined air forces] in a theater of military operations and the OTAK [joint tactical air command], which are simultaneously the commanders of the zones and air defense areas respectively.

Flexibility and reliability of control (while retaining a high level of survivability in a situation of nuclear warfare and stability should the enemy use radioelectronic warfare means) is achieved by having an extensive network of protected stationary and mobile control points and operations centers, by achieving interchangeability of control systems for the tactical aviation and air defense forces, and by employing equipment resistant to jamming and multiple, duplicated control and communication channels.

Control is kept at a high level of combat readiness by keeping combat crews constantly on duty at control points, with highly automated systems for controlling aircraft and surface-to-air guided missiles, and by providing the staffs with the ability rapidly to deploy war-time control elements.

According to the foreign press, the control systems for air force and air defense formations in the Northern European (SE), Central European (TsE) and Southern

European (YuE) theaters of military operations are structurally the same but differ in their degree of development. The latter is determined by the role and place assigned to each theater of military operations and to the composition of the air force groupings there (especially the presence or absence of U. S. Air Force formations), as well as to the physical and geographical conditions in the theater. The control system for air force and air defense formations in the Central European theater of military operations is the most highly developed and, in the opinion of foreign experts, measures up to modern requirements to the greatest degree. Its main purpose consists in providing centralized planning, on the one hand, and insuring the rapid transition from a peacetime to a war footing and controlling the combat operations of the aviation, on the other.

Operational control of NATO's air force formations and air defense system in the Central European theater of military operations (see diagram) is exercised by the commander of the combined air forces in the theater of military operations, who is also commander of the Central Zone of NATO's air defense system in Europe). His main control elements are stationary and mobile posts, which are located together with the corresponding control posts (PU) of the commander of NATO's combined armed forces in the Central European theater of military operations. Control of the air defense personnel and facilities is exercised from a zone's operations center (OTsZ).

The commanders of the 2nd and 4th Joint Tactical Air Commands are in direct charge of air force units and air defense forces in the areas under their jurisdiction. In peacetime they exercise control through their headquarters, and in time of war, through stationary and mobile control posts located together with the corresponding control posts of the commanders of the Northern and Central army groups. The commanders of the joint tactical air commands direct the air defense forces placed under their operational command through the operations centers of air defense areas and sectors.

Tactical Air Control

The foreign press reports that during a period of danger forces of the 601st Tactical Air Control Wing of the U. S. Air Force sets up the 485L automated control system (an improved version of the 407L automated control system) for directing tactical air operations in the Central European theater of military operations. The Western press conditionally separates the 485L automated control system into four subsystems: tactical air control, direct air support, air traffic control and communications.

NATO experts consider the tactical air control system to be the main one. It handles the collection, processing, transmission and representation of information on the air situation. This subsystem's equipment is located at tactical air control centers (TsUTA), at control and warning centers and posts (TsUO and PUO) and at forward command posts (PPU).

The tactical air control center is the main agency of operational control for tactical air units within the given joint tactical air command. It plans the combat air operations involved in gaining air supremacy, isolating an area of

combat operations, conducting aerial reconnaissance and performing air transport operations; synthesizes requests from ground forces for air support and designates the means for meeting them; monitors the activities of the direct air support centers (TsNAP) and control and warning centers; synthesizes information on the air situation and transmits it to the command post (PU) of the commander of the joint tactical air command.

The control and warning centers are the main agencies for monitoring the air situation and controlling aircraft in the air. They are directly subordinate to the tactical air control centers and handle the collection, processing and transmission of information on the air situation in their area. Command and warning centers are equipped with the most modern radar sets with a range of more than 400 kilometers, identification friend-or-foe equipment and high-speed electronic computers. In addition, the control and warning center receives information on the air situation from two or three subordinate control and warning posts. NATO military specialists believe that the control and warning centers should be located around 150 kilometers from the front line.

Control and warning posts (deployed 60 to 80 kilometers from the front line) direct tactical aircraft within a limited area of responsibility according to instructions from the control and warning center. They do not coordinate operations or synthesize information on the air situation, but transmit it to the control and warning center. A control and warning post ordinarily has two or three radar stations.

The forward command posts are the most highly mobile tactical air control elements. They monitor the air space within a prescribed, narrow sector, detect low-flying targets and direct aircraft to ground and air targets by means of electronic equipment. A forward command post has one radar set, identification and communications equipment. All of this is installed in motor vehicles and deployed in the combat formations of first echelon divisions, a distance of 10 to 30 kilometers from the front line.

The direct air support subsystem is responsible for organizing interaction between the tactical aviation and the ground forces when engaged in joint operations. It helps to collect, analyze and synthesize requests from the ground forces for aviation support and aerial reconnaissance, to distribute the means designated for that purpose among the formations and units, and to coordinate operations of the tactical aviation and combined-arms forces with respect to time and place. The main elements of this subsystem are the direct air support centers (TsNAP), tactical air control teams (KUTA) and forward air controllers (PAN).

The direct air support center is the main agency of interaction between the tactical aviation and the army corps. It exercises control over tactical fighters and reconnaissance aircraft when providing direct air support for the ground forces. The direct air support center is subordinate to the tactical air control center and is located with the corps' combat operations control center. It collects requests for direct air support and aerial reconnaissance and compiles daily plans for supporting the corps' formations and units within the limits of the

aviation resources allocated for it, directs the activities of the tactical air control teams and forward air controllers, and maintains contact with the tactical air control centers and with the crews of aircraft in flight.

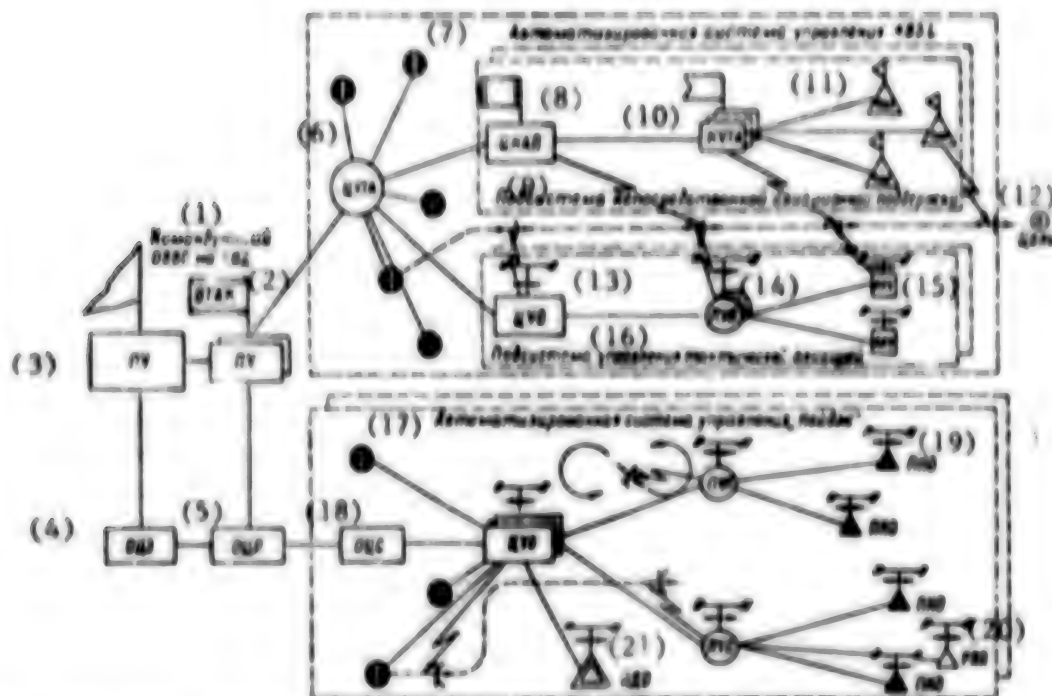


Diagram Showing Control Agencies for the Combined NATO Air Forces and Air Defense System in a Theater of Military Operations

Key:

- | | |
|---|--|
| 1. Commander of the combined air forces in the theater of military operations | 11. Forward air controller |
| 2. Joint tactical air command | 12. Target |
| 3. Command post | 13. Control and warning center |
| 4. Operations center for the zone | 14. Control and warning post |
| 5. Operations center for the area | 15. Forward command post |
| 6. Tactical air control center | 16. Tactical air control subsystem |
| 7. 485L automated control system | 17. NADGE [NATO Air Defense Ground Environment] automated control system |
| 8. Direct air support center | 18. Operations center for sector |
| 9. Direct air support subcenter | 19. Observation and warning post |
| 10. Tactical air control team | 20. Radar post |
| | 21. Long-range radar detection post |

The tactical air control teams are subordinate to direct air support centers. They are set up at the command posts of division commanders and commanders of ground force brigades. The chief of a tactical air control team advises the formation (or unit) commander on matters of making more effective use of the air forces and refers unplanned (emergency) requests for air support to the direct air support center.

The forward air controller is within the combat formation of the first echelon battalions and performs the direct guidance of tactical fighters to ground targets.

The air traffic control subsystem insures flight safety and supports navigation, interaction between the tactical aviation and the army aviation and air defense facilities of the ground forces, and provides flight control in the areas of airfields. The air space monitoring centers (a part of the tactical air control centers) and air traffic control centers (part of the control and warning centers) are the main elements of this subsystem.

The communications subsystem includes ground communication facilities necessary for exchanging information among ground command posts, and aviation radio communication facilities for ground-to-aircraft communication. Its functioning is based upon the coordinated use of ultra-short-wave, short-wave, tropospheric, radio-relay and wire communication lines. The aviation radio communication equipment includes the communications centers of ground control agencies and the aircraft communication equipment, which operates on the ultra-short-wave and short-wave bands.

Control of the personnel and facilities of NATO's Joint Air Defense System in Europe is exercised from the operations centers of zones, areas and sectors (OTsZ, OTsR and OTsS) by means of the NADGE (NATO Air Defense Ground Environment) automated system. The foundation of this system is comprised of stationary control and warning centers (TsUO), control and warning posts (PUO), observation and warning posts (PNO) and long-range radar detection posts (PDO). The NADGE automated control system has 82 radar posts and control elements, around 50 percent of which are equipped with electronic computers. According to foreign experts each electronic computer is capable of tracking around 300 air targets and directing the interception of as many as 30. The system's centers and radar posts have around 280 radar stations for various purposes, which make it possible to create a zone of solid radar observation of the air space at medium and high altitudes. The border of this zone runs from northern Norway to the eastern borders of Turkey.

In the opinion of NATO's military experts, however, the NADGE system is not reliable for detecting low-flying air targets. Because of this mobile radar posts (RLP) of West Germany's Iars system for detecting targets at low altitudes have been set up along the eastern borders of the FRG. This system includes 48 posts outfitted with mobile radar stations, which make it possible to detect low-flying targets at ranges of up to 45 kilometers. There is a constant flow of information on the air situation from the Iars posts to the NADGE automated control system.

When an air target is detected by any post (long-range detection, observation and warning posts or those of the Iars system), the information is sent to a control and warning center and is automatically fed into an electronic computer. After the information is processed it is depicted on the electronic panels of identification operators and operators controlling the active air defense equipment.

If a target is identified as "foe," the chief of the control and identification center receives permission from the chief of the air defense sector and issues the order to destroy it to a surface-to-air guided missile controller or a fighter

controller (the weapons system is also selected by means of the electronic computer). The latter transmit the order to the commander of the surface-to-air guided missile battalion or the commander of a fighter-interceptor wing (or squadron). When the target is destroyed by the fighter aviation, the controller at the control and identification center directs the aircraft.

All information on air targets is continuously transmitted from the control and identification center to the operations centers of the air defense sectors, areas and zones, as well as to the command post of the Supreme Commander of NATO's Combined Armed Forces in Europe. This is done in order to promptly assess the degree of danger from the air and properly distribute available personnel and equipment for its destruction.

In the Central European theater of military operations, according to reports in the foreign press, the NADGE automated control system works closely with the 485L automated control system, which under certain conditions may be called upon to perform air defense missions.

In the opinion of foreign military experts the existing system for controlling NATO's Combined Air Forces and the air defense system measures up on the whole to the demands made of it. The NATO command, however, is constantly perfecting the system. The main step currently being taken is that of preparing for the adoption of 18 E-3A early-warning and control aircraft of the AWACS system. With the set of airborne radio electronic equipment of this system carried by an E-3A aircraft flying at an altitude of 10,000 meters it is possible to detect, identify and track large air targets (heavy bombers, for example) flying at medium and high altitudes at a range of up to 700 kilometers, and up to 400 kilometers at low altitudes. The corresponding ranges are 450 and 320 kilometers respectively for tactical fighters. According to foreign press reports, one set of airborne equipment of the AWACS system is capable of processing information on more than 100 air targets, while simultaneously providing for the automatic guidance of up to 30 groups of fighter-interceptors. It is the opinion of NATO's military leadership that adoption of the AWACS system and its use in conjunction with the NADGE automated control system will considerably increase the capabilities of the system for controlling formations of NATO's Combined Air Forces and air defense forces in all European theaters of military operations.

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PERCEPTIONS, VIEWS, COMMENTS

U.S. CRUISE MISSILE TEST RESULTS

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 12, Dec 80 signed to press 8 Dec 80 pp 67-68

[Article by Eng-Col V. Kirsanov: "Winged Missile Flight Tests"]

[Text] According to a report in the foreign press, in March of 1980 an official Pentagon spokesman announced that after studying the results of competitive flight tests performed with the AGM-86B cruise missiles built by the Boeing Company and the AGM-109 built by General Dynamics, the U.S. Air Force Command had chosen the AGM-86B (see Figure [Figure not included in translation]) and made the decision to prepare for its series production.

When this decision was reached it put an end to a long period of rivalry between the two giant U.S. military-industrial complexes, which were competing for the exceptionally profitable contract. The winner would have the privilege of manufacturing and delivering to the American Air Force a new offensive missile designed for installation on the B-52 strategic bombers. Describing this transaction, the American magazine TIME wrote that "this was the biggest individual Air Force contract since the end of the war in Vietnam, the cost of which would exceed 4 billion dollars."

The competitive flight testing of the cruise missiles was begun in the summer of 1979. In the tests, according to the foreign press, the companies were to demonstrate the aerodynamic features of both missiles, for which purpose they had the right to perform 10 launchings each from specially converted B-52G bombers. In the beginning the tests were conducted within a practice and testing range in the state of Utah, where the missiles were launched from a B-52G and then performed a flight over a closed route in the form of a 160-180 x 45-50 kilometer ellipse. Later, in accordance with Air Force requirements, the missiles were launched over the Pacific Ocean a distance of around 100 kilometers from the southwest coast of the United States (near the city of Los Angeles) with a subsequent flight over the states of California, Nevada and Utah.

The missiles were launched from both under-wing pylons and a revolving launcher inside the fuselage. Two seconds after the missiles were released the airfoils opened up automatically, and eight seconds later the sustainer engine engaged, developing a thrust of around 270 kilograms. The flight altitude of the cruise

missiles on the route ranged between 150 and 1500 meters, depending upon the nature of the terrain. In the final stage of the flight (over the testing range in the state of Utah) a special parachute system was automatically activated, which insured a soft landing for the missile or made it possible for the missile to be picked up in the air by a specially equipped rescue helicopter. U. S. SAC crews took part in the tests along with experts from the competing firms. The former simulated deployment of a combat flight in the interval between the takeoff of the bomber and the missile launching.

The American press stated that a study of the completed flight tests (6 of 10 launchings were successful for each type of missile), the experts discovered certain advantages of the AGM-86B (the missiles flew more than 19,000 kilometers in a total of around 32 hours in the air), which were basically the following. The software for the guidance system developed by Boeing was more reliable and insured greater target-approach accuracy. With respect to strength and aerodynamic features the AGM-86B was superior to the AGM-109, which permitted it to fly over broken terrain at lower altitudes. Finally, it was more practical and less expensive to produce and was considerably simpler to service than the AGM-109.

It was because of these qualities, the Western press states, that the U. S. Air Force Command preferred the AGM-86B and selected Boeing as the main contractor, responsible for producing and delivering more than 3400 missiles to SAC units between 1981 and 1989.

According to estimates published in the American press, the Boeing company receiving around 50 percent (2 billion dollars) of the total amount specified in the contract. The remaining 2 billion dollars went to McDonnell-Douglas (for the TERCOM guidance system), Litton Industries (for the inertial guidance system), Williams Research (for the engine) and a number of small contractors producing individual assemblies and components for the missile.

According to reports in the foreign press, the U. S. Defense Department's budget for the 1979/80 fiscal year included 141 million dollars for the purchase of the first 225 cruise missiles. In 1981 it is planned to increase series production to 40 cruise missiles a month, which will make it possible subsequently to purchase 480 units annually. By December of 1982 it is planned to have within the combat-ready forces of the U. S. SAC (at Griffith Air Force Base in the state of New York) the first squadron of B-52G bombers capable of carrying up to 12 AGM-86B cruise missiles on special under-wing pylons. Subsequently, the aircraft-carriers of the cruise missiles will be outfitted with revolving launchers (for eight missiles) within the fuselage, and this will raise the payload to 20 cruise missiles for each B-52G bomber.

And so, the selection of a missile has been made. The winner has been named and the Boeing company is counting up its future income. The Pentagon strategists are eagerly awaiting the new cruise missiles, by means of which, the magazine U.S. NEWS AND WORLD REPORT states, they hope "...to alter the balance of strategic power in favor of the United States for the decade ahead and even for the more remote future." Such endeavors, however, like the blatant increase in military outlays for the benefit of the bosses of the military-industrial complex, only serve to whip up the arms race even more, increase tensions in international relations and increase the likelihood of a nuclear-missile war.

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PERCEPTIONS, VIEWS, COMMENTS

NATO'S NAVAL EXERCISE 'DAWN PATROL-80'

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 12, Dec 80 signed to press 8 Dec 80 pp 69-72

[Article by Capt 2d Rank V. Khomenskiy: "Naval Forces of the NATO Nations in the Exercise 'Dawn Patrol-80'"]

[Text] Using the mythical "Soviet military threat" to disguise its aggressive ambitions, NATO's military-political leadership is stepping up operational and combat preparations within the national and combined command elements of its armed forces. In exercises and maneuvers on various scales it is working out various alternatives for unleashing armed conflicts, primarily against the countries of the socialist commonwealth. The staffs, troops and naval forces are being trained to conduct combat operations under conditions creating as nearly as possible an actual wartime situation, perfecting methods and working out new tactical procedures, testing combat equipment and determining the capabilities of new ships and weapons systems.

These are the purposes of the annual exercises code named "Dawn Patrol," which are conducted annually by NATO's Combined Armed Forces in the Southern European theater of military operations. The spatial scope, the significant quantity of forces and fleet facilities of the leading NATO nations and the extent of the missions involved place these exercises among the most important activities in the operational and combat preparation of NATO's Combined Armed Forces in the Southern European theater of military operations.

In 1980 the "Dawn Patrol" exercise was conducted from 5 to 17 May in the western, central and eastern parts of the Mediterranean Sea, in Italy and Turkey. It involved command elements and staffs of the combined and national armed forces, formations and units of ground troops, the 5th and 6th Joint Tactical Air Commands, NATO's assault and combined naval forces in the Southern European theater of military operations, marine subunits, forces and facilities of the southern zone of NATO's Joint Air Defense System in Europe. According to the foreign press, it involved more than 80 naval ships, submarines and auxiliary vessels of the United States, Great Britain, Canada, the FRG, the Netherlands, Italy, Turkey and France (including the American aircraft carrier Saratoga, the American commando helicopter carrier Injun and the French aircraft carrier Foch), the permanent formation of NATO naval forces in the Atlantic, more than 300 aircraft of the strategic, tactical, ship-based and coastal patrol aviation, and around 3,000 marines.

The following problems were worked out in the exercise: conversion of the armed forces from a peacetime to a wartime footing in accordance with NATO's official alert system; the activation and deployment of operational formations and various special groups in areas designated for combat; reinforcement of air force and naval groupings in the theater of military operations; the combating of "enemy" naval groupings to gain superiority at sea and provide favorable operational conditions in specific areas of the theater of military operations; the conduct of naval landing operations and the provision of all kinds of support for such operations; the rendering of direct air and ship (artillery) support for the ground forces and for landing forces in the coastal sector; the organization of protection for naval lines of communication; and the piloting of landing detachments and convoys.

Overall leadership of the exercise was performed by the Supreme Commander of NATO's Combined Armed Forces in the Southern European theater of military operations, and direct control of the operations was exercised by the commanders of NATO's assault and combined naval forces through the commanders of the combined naval forces in the areas (Gibraltar, Western, Central, Northeastern, Eastern and Southeastern) and the commanders of the operational formations and groups.

In accordance with NATO's established terminology the forces in the exercise were divided up into "blue" forces (Combined Armed Forces of NATO) and "orange" forces (the "enemy"). On the side of the "blue" forces were surface ships and auxiliary vessels, including the aircraft carriers Saratoga and Foch, marine subunits, aircraft of the strategic, tactical, ship-based and coastal patrol aviation, and forces and facilities of the southern zone of NATO's Joint Air Defense System in Europe; on the side of the "orange" forces were atomic-and-diesel powered submarines, part of the surface ships formed into surface strike groups, missile and torpedo boats, and separate units and subunits of ground troops, tactical and coastal patrol aviation.

The concept of the exercise, which was imbued with fabrications about a "military menace" on the part of the Soviet Union and with a spirit of responsive "defensive steps" being taken by the NATO command, called for the "blue" forces to halt with restraining actions an offensive by "enemy" ground forces, to blockade and neutralize the fleet, to switch to an offensive and "destroy" the main "enemy" groupings, thereby creating good operational conditions in the theater of military operations. It was then planned to conduct a naval landing operation for the purpose of capturing a beachhead, to land reinforcement troops there with the mission of providing support for ground forces in the coastal sector, and to insure the uninterrupted transfer of materiel by sea for the successful conduct of combat operations on the land fronts.

The following elements were worked out in the first stage of the exercise: the activation of operational formations and various special-purpose groups, including NATO's naval assault forces in the Southern European theater of military operations; the deployment of forces in areas designated for combat (the western and central parts of the Mediterranean Sea); reinforcement of NATO's naval groupings in the Southern European theater of military operations; the landing of a naval assault group in the bay of Teulada on the island of Sardinia; a search for and the tracking and "destruction" of "enemy" submarines in the areas of the Tyrrhenian and Ionian Seas and at antisubmarine positions.

The areas designated for combat in which the forces were deployed were mined, and minesweeping ships of NATO's Mediterranean members provided ASW support.

NATO's naval groupings in the Southern European theater of military operations were reinforced by transferring to the Mediterranean Sea individual naval ships of the United States, Canada, Great Britain, the FRG and the Netherlands, NATO's Permanent Naval Formation in the Atlantic (as many as seven ships), and marine subunits from Great Britain and the Netherlands on board the commando helicopter-carrier Bulwark.

An amphibious formation with landing forces on board was formed near the coast of northern Italy (see diagram). Its transfer to the island of Sardinia was carried out with active operations by "enemy" submarines deployed along the route and "enemy" fighter-bombers. The formation was covered by ship-based aircraft, with carrier-based fighters forming combat air patrols at distances of 20 to 30 miles from the aircraft carrier on threatened axes.

An assault group as large as a reinforced battalion of marines was landed onto the unequipped shore of the bay of Teulada from naval landing and transport ships of the United States and Great Britain. This operation was preceded by check minesweeping of the approaches to the landing sites and by ship (artillery) and aircraft preparation. Ship hunter-killer groups deployed southwest of the island of Sardinia, in the Tunis Strait and in the Tyrrhenian Sea isolated the landing areas and provided ASW support at the anchorage sites and the maneuvering areas of the landing ships and transports. Aircraft of the coastal patrol aviation also hunted and "destroyed" "enemy" submarines, interacting closely with maneuvering surface ASW forces.

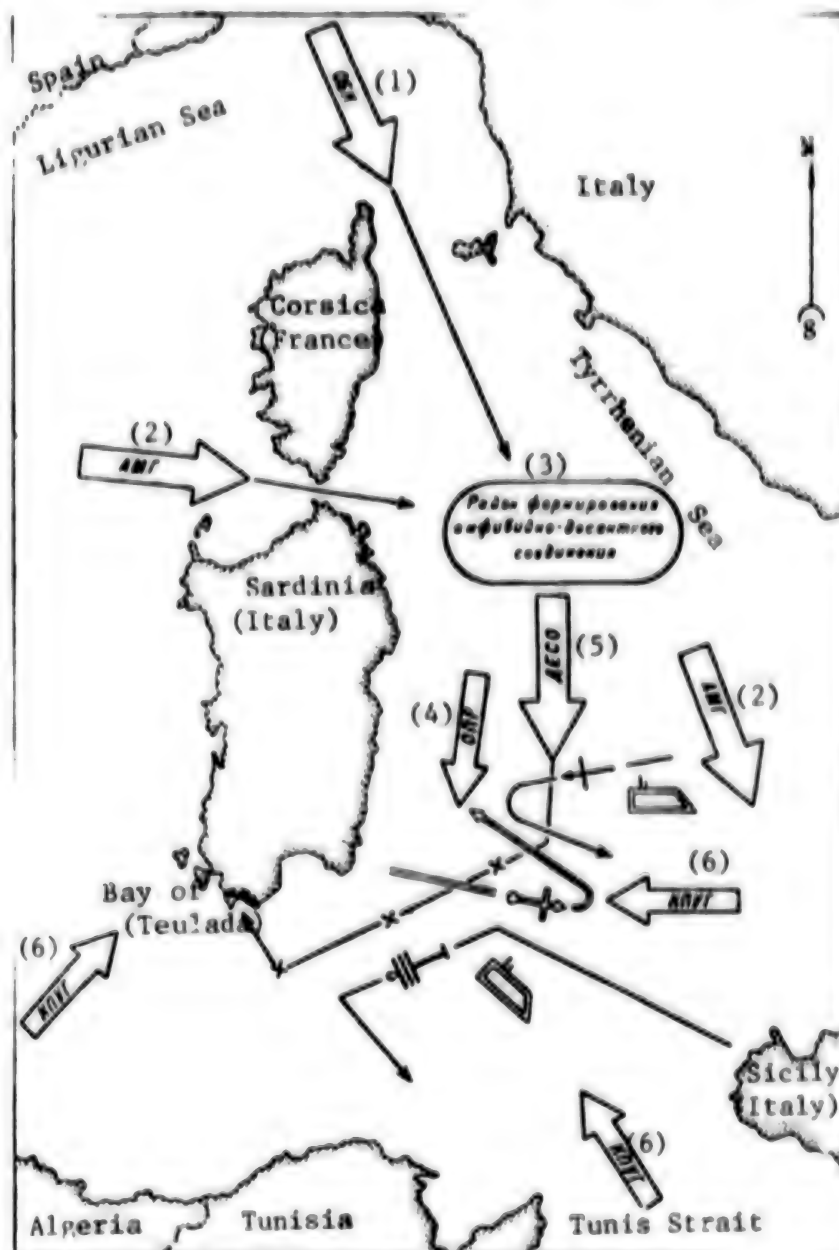
The landing was performed by a combination of landing vessels and helicopters. Aircraft from the aircraft carriers Saratoga and Foch, which were as far as 100 miles from the landing area, provided support for the landing forces during this period and during their operations on shore to capture and expand a bridgehead. Carrier-based aircraft operated jointly with aircraft of the tactical aviation.

The second stage consisted of missions to gain superiority in the Tyrrhenian, Ionian and Aegean Seas, antisubmarine warfare against "enemy" submarines at ASW positions and in individual areas of the sea, the piloting of convoys carrying reinforcement troops and combat equipment from the western to the eastern part of the Mediterranean, and the rendering of direct air support for groupings of ground forces on coastal axes.

The gaining of supremacy at sea was achieved by the coordinated use of various naval forces interacting closely with carrier and tactical aircraft. Reconnaissance was performed by B-52 aircraft of the U.S. Strategic Air Command. Groups of carrier-based and tactical aircraft carried out strikes against groupings of surface ships from one or more directions.

Convoys carrying reinforcement troops and combat equipment were piloted through mined waters in which "enemy" submarines and aircraft were active. Fighters from the aircraft carriers Saratoga and Foch and personnel and equipment from the

southern zone of NATO's Joint Air Defense System in Europe were drawn upon to cover convoys traveling in the Ionian and Tyrrhenian Seas. ASW defense was provided by ships from the guard force and mixed hunter-killer groups.



Deployment of Forces During Naval Landing Operation

[Key on following page]

Key:

- | | |
|---|-----------------------------|
| 1. Detachment of ships | 4. Covering force |
| 2. AMG [expansion unknown] | 5. Landing detachment |
| 3. Forming-up area for amphibious landing formation | 6. Ship hunter-killer group |

Other tasks were also performed during the exercise: the direction of all-arms forces; the conduct of reconnaissance; interaction between naval forces and tactical aircraft for purposes of carrying out strikes coordinated with respect to time and place against "enemy" ship groupings; the organization of all types of defense for formations crossing the sea and at anchorage; antimine support for the operations of the forces and the piloting of ships behind minesweepers; and the provision of material and technical support for ships at sea. Like all exercises of this type conducted in recent years, this exercise assigned special importance to the use of radioelectronic warfare means for disturbing the control and communication system, confusing the "enemy" and suppressing the "enemy's" detection and fire control radar.

Participation in the exercise Dawn Patrol-80 by naval ships from the United States, Canada, Great Britain, the FRG and the Netherlands, as underscored by the foreign military press, demonstrates the readiness of NATO's military-political leadership "to protect the interests of the Mediterranean countries in any critical situation" arising on the southern flank of the bloc. By conducting such exercises the champions of the "cold war" are clearly attempting to aggravate the international situation and provide new momentum to the amplification of tensions in this area.

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PERCEPTIONS, VIEWS, COMMENTS

U.S. NAVY'S SHIP REPAIR FACILITIES

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 12, Dec 80 signed to press 8 Dec 80 pp 78-82

[Article by Eng-Capt 1st Rank M. Tsiporukha: "Ship Repairs in the U.S. Navy"]

[Text] In recent years the U.S. Naval Command has devoted a great deal of attention to the development and improvement of the entire ship repair system. This is a result of the increased importance of ship repairs, one of the main factors in the group of measures designed to maintain the combat readiness of the Navy--the strike force of American imperialism, and of the increased complexity of repair operations on ships outfitted with modern propulsion plants, missile weapons, electronic systems, automation and remote-control equipment.

In the United States the planning, construction, repair, modernization and technical servicing of ships is handled by the Function Shipbuilding and Armaments Command, which is affiliated with Navy's Logistical Support Command. It also directs the operations of all the federal ship repair yards (SRZ).

The Navy's ship repair capacity is made up primarily of 8 functioning federal ship repair yards located in the continental United States and the Hawaiian Islands (see Table [Table translated as paragraph of text]), as well as 27 private shipyards. Also important are the ship repair facilities at oversea naval bases, particularly the federal ship repair yards on the island of Guam, at Yokosuka, Japan, and Subic Bay in the Philippines.

In the U.S. Navy repair operations are subdivided into the following main categories:

- scheduled preventive-maintenance inspections and repair of weapons, machinery and equipment performed by shipboard personnel for purposes of maintaining the combat and technical equipment in a state of repair and a constant state of readiness;

- between-cruise repairs, during which malfunctions of the ship's armaments detected at sea are corrected by the personnel and using the equipment of repair ships, tenders and floating docks;

- emergency shipyard repairs;

- scheduled shipyard repairs or regular major overhauls (as they are called in the United States).

Repairs in the first two categories are carried out by way of technical servicing of the ships and do not require taking them out of action.

Shipyard repairs on ships require taking them out of action, which reduces the fleet's combat capability. The Navy is therefore attempting to reduce their frequency and duration and to improve the quality of the repair work so as to preserve the reliability of the weapons and technical equipment following repairs.

A regular major overhaul is performed on a ship in a shipyard every three to five years, ordinarily coinciding with large-scale modernization work. The duration of the overhaul depends to a considerable degree upon the amount of work scheduled for the ship.

Following are the locations of federal ship repair yards and a list of the work performed at each: Portsmouth--modernization and major overhaul of nuclear missile and torpedo submarines; Philadelphia--modernization and major overhaul of all classes of surface ships; Norfolk--modernization and major overhaul of all classes of surface ships and nuclear torpedo submarines; Charleston--modernization and major overhaul of ships with conventional power plants, up to cruisers inclusive; Long Beach--major overhaul and running repairs on ships with conventional power plants; Mare Island--major overhaul of nuclear submarines and nuclear service ships (with the exception of aircraft carriers); Puget Sound--modernization and major overhaul of ships and submarines (including nuclear-powered vessels); Pearl Harbor--modernization and major overhaul of ships (with the exception of nuclear-powered vessels and aircraft carriers) and nuclear submarines.

Regular major overhauls (not including extensive modernization) of nuclear submarines (PLA) take 10 to 14 months; aircraft carriers--from 9 to 12 months; cruisers, destroyers and frigates--3 to 4 months. When extensive modernization work is performed the regular repair of nuclear submarines and aircraft carriers increases to 18-24 months.

Since the 1960's limited, reduced repairs have been performed on a number of ships in the basic classes during the intervals between regular repairs, following their return to the United States from the sixth and seventh operative fleets. These are ordinarily performed at shipyards, but in many instances they have been performed by repair ships, tenders, and seagoing teams from ship repair yards. According to the foreign press, the adoption of the latter ship repair system was necessitated by a shortage of capacities at ship repair yards.

New between-repair intervals have recently been adopted for Spruance-class destroyers and guided-missile frigates of the Oliver H. Perry class. The current schedule calls for a major overhaul lasting up to four months every four to five years for the former. The schedule calls for modernization (during major overhaul) every 10 years for guided missile frigates of the Oliver H. Perry class. It is believed that the new between-repair schedules will increase the amount of time ships spend in the formation and make it possible to increase the coefficient of operational use.

The U.S. Navy has adopted the following system of preparing for and performing regular major overhauls at ship repair yards. Three separate lists of repair and modernization jobs are compiled in advance for a ship, which are scheduled for the next regular overhaul.

The first list is compiled on the ship, where a "Current List of Repairs for Regular Overhaul" is kept in the divisions. This is a log containing separate pages for each unit of machinery and each system. During its operation the personnel make regular entries in the log on the work to be performed during the next overhaul. These entries are used for compiling a requisition for repair work in each division. The captain submits a composite requisition for the ship to the commanding officer of the given branch of naval forces. The list also includes refitting work on the hull, the technical equipment and armaments. The commander is required to submit an adjusted requisition for repair and modernization work to the administration of the ship repair yard two and a half months before the scheduled beginning of the overhaul at the ship repair yard.

The second and third lists are compiled at Naval command agencies. The second includes all modernization work on the armament scheduled for the next regular shipyard overhaul. A copy is sent to the ship, the commander of the given branch of naval forces and the ship repair yard five months prior to the ship's scheduled dry docking.

The third list covers all modernization work on the hull and the electromechanical equipment scheduled for the overhaul period. Copies are sent to the same parties no later than four months prior to the scheduled beginning of the overhaul. The commander of the given branch of naval forces submits a requisition for shipyard repair of ships under his command. He can cancel the dry docking of the ship, postpone it or substitute reduced repair work to be performed by repair ships, tenders, or the ship's personnel.

The Navy's Logistical Support Command is endeavoring to improve the system of preparations for overhaul and making a special effort to find ways to make a more accurate preliminary estimate of the materials and labor required. Between 1970 and 1975 ship repair yards collected this information for seven regular overhauls of aircraft carriers, and standard repair logs were developed for an aircraft carrier on the basis of this information. Labor outlays, the consumption of materials and their cost are listed in three categories: minimal, average and maximum. Now, when the personnel compile a requisition, they select one or another category indicator from the standard lists, taking into account the actual wear-and-tear on the equipment. Technical standards are also used for compiling requisitions and listing therein standard, frequently encountered repair jobs on the hull and the electromechanical equipment. This makes it possible to determine rapidly and with greater precision the amount of labor and materials required to perform the job.

A meeting is ordinarily held three to four weeks before the dry docking of the ship. It must be attended by a representative of the commander of the given branch of naval forces, the ship's captain and the administration at the ship

repair yard. The precise date is set for the dry docking of the ship and the extent of the work is determined at this meeting. Immediately after this, the ship repair yard administration orders the additional materials and equipment required, the technological documentation is compiled, and the job orders are drawn up and submitted to the shops. It is considered necessary to draw up 85 percent of the work orders before the ship arrives at the ship repair yard, the remaining orders--as soon as one-fifth of the work has been completed. While the overhaul is under way the ship's commanding officer maintains direct communication with the shipyard administration through a specially designated officer-shipbuilder.

All of the easily damaged equipment is dismantled and removed from the ship, and the ammunition and excess fuel is unloaded. The work is begun immediately after the ship is dry docked at the repair yard and is performed round-the-clock when necessary. It is recommended that ships' captains take maximum advantage of the overhaul period for granting leave to the personnel and for training the personnel at training centers and in trainers on shore.

The Navy also draws actively upon the ships' crews for performing repairs. There are special manuals listing the repair jobs which can be assigned to the personnel. These indicate the amount of work required, the necessary materials and tools. A composite list of these jobs is compiled on the basis of these manuals and taking into account the actual condition of the equipment and the crew's training in repair work. This list, along with a list of the personnel members responsible for performing the work, is submitted to the repair yard's production and planning section and is taken into account for compiling the composite network schedule for the work. The shipyard system of network planning and control calls for the ship's command to report to the shipyard administration periodically on the jobs performed by the crew.

The composite network schedule for the repair work assigns a minimal load to the personnel during the first and last four weeks of the overhaul, since during these periods they are performing a large number of additional duties to prepare the ship respectively for the repair work and for the trial run. During the shipyard overhaul the final acceptance of the completed jobs is performed mainly by the ship's personnel.

The program of dock and sea trials is worked out by the ship repair yard's design section as applicable to a specific ship. It is based upon the "General Regulations for Testing Ships Following Overhauls" issued by the Navy's Functional Shipbuilding and Armaments Command. Personnel from the ship repair yard and the ship's crew take part in the post-overhaul trials. Before these are begun representatives of the Functional Shipbuilding and Armaments Command, together with the personnel, carefully verify the repair yard and ship reports on the performance of the scheduled repair jobs.

Special attention is devoted to the submarines' readiness for deep-sea submersion. During the dock trials all of the pipes inside the pressure hull which are subjected to sea-water pressure at sea are pressure-tested at pressures 50 percent greater than that encountered at the operating submersion depth.

During the sea tests following shipyard overhauls, all submarines are taken down to the so-called test depth, which is somewhat greater than the operating depth. These tests are conducted in an area of the sea where the depth does not exceed the operating depth by more than 50 percent.

After the sea tests are completed, a certificate is made out and the ship is considered to be turned over to the fleet. A week is then spent restoring its battlereadiness.

Because of the special difficulties involved in overhauling nuclear submarines and aircraft carriers, the Navy decided as early as the mid-1960's that supervision of overhaul preparations would have to be centralized. Planning and technical support centers for the overhauling and modernization of nuclear submarines and aircraft carriers were created for this purpose in 1967 at the government ship repair yards in Portsmouth and Puget Sound respectively. Their responsibilities are the following:

- the planning and financing of repairs and modernization (the compiling of final lists of modernization and main repair jobs to be performed during the shipyard overhaul period and the schedules for their completion, the distribution of allocations for repairs and modernization among the ships, the issuing of orders to private and government shipyards and design offices, coordination of their production work pertaining to the overhaul of nuclear submarines and aircraft carriers, and supervision of post-overhaul trials);

- material support with respect to the placement of orders for materials and equipment, the stockpiling of materials and their distribution among the shipyards;

- technological support, including the development of the more important technological repair processes and quality control operations, based on standard technological instruction and technical specifications mandatory for the overhauling of nuclear submarines and aircraft carriers at all shipyards, and the coordination of technical repair specifications worked out by the functional commands (shipbuilding, armaments, air maintenance and others).

According to foreign press reports, the functioning of the center in Puget Sound alone, in combination with the crew's active participation in the repair work, cut repair costs for one of the aircraft carriers by 8 million dollars and reduced the amount of time required from 11 to 9 months. Thanks to the thorough preparation of an aircraft carrier for overhaul, 80 percent of the work is now determined in advance. The preparation period has increased sharply, however. The ship repair plant now receives a list of the required jobs compiled at the center, 11 months prior to the dry docking of the aircraft carrier, and the network schedule for the performance of the job is worked out on the basis of this list.

The foreign press has reported that specialists at the center spent more than two years planning and preparing for the overhaul of the aircraft carrier John F. Kennedy, which was performed at the repair yard in Norfolk within a period of 10 months. Electronic computers are used extensively for planning, gathering data and making calculations. The thorough preparations have made it possible to reduce the originally established duration of the overhaul by four months, without any additional work force.

The Navy is giving considerable attention to the development of the ship repair plant. In 1970 the U.S. Defense Department approved a 10-year program for the modernization of government ship repair yards at a cost of around 1 billion dollars. Because of the increased complexity of the shipboard equipment a new program for the period 1977-1986 was adopted in 1974. The program will cost 1.3 billion dollars.

Between 5,000 and 11,000 (an average of 8,000) people work at the main ship repair yards, with up to 65 percent of the workers engaged in actual production work (the typical structure of a government ship repair yard is shown in Figure 1 [graphics not included in translation]).

The production and planning section occupies a leading place in the organization of production at a ship repair yard. In addition to planning and monitoring the performance of the shops it engages in the study, the development and introduction of progressive technological methods, as well as new equipment to raise labor productivity, cut the cost of the work and improve its quality, and reduce the amount of time required to perform the repairs. It has been reported that this section at the ship repair yard in Norfolk is developing improved methods for replacing screw propellers, rudders and propeller shafts weighing up to 30 tons on ships in dry dock. It has created modular docking scaffolds for nuclear submarines, with a single module weighing no more than 15 tons, which give the workers access to the entire surface of the submarine hull (Figure 2). They are outfitted with devices for hooking up to electric power, water and air supplies and delivering them to the work stations. The scaffolding can be assembled at a dock within 24 hours.

All of the main government ship repair yards now have automated control systems (ASU). Documentation for the automated control system includes manuals on each subsystem, which contain samples of all the report and accounting forms and describes in detail the input and output data for the subsystems, the codes and the technological processes involved in the processing and output of information. The automated control system provides all levels of leadership at the repair yard with current information on the outlays for specific jobs, the financial condition of the repair yard and its subdivisions, and operational information on the state of production. The system makes it possible to vary the periodicity for the issuing of information (daily, weekly, and so forth) and to monitor the timeliness of its delivery.

The facts presented above attest the fact that the U.S. Navy is constantly endeavoring to improve the organization of ship repairs and to insure that the fleet of ships is kept at a high level of combat readiness.

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PERCEPTIONS, VIEWS, COMMENTS

SOVIET MILITARY BUDGET: BIRMAN'S VIEWS IN FRENCH SOURCE

Paris CONTREPOINT in French Feb 81 pp 7-20

[Article by Igor Birman: "The Soviet Military Budget: A Little Detective Story"]

[Text] I became an economist by chance, and indeed I know of only one of my colleagues who--because of his interest in pricing mechanisms--has chosen this path (he is still in this field today). Some dream of being a conqueror, a cosmonaut, a doctor, a spy, a taxi driver or a general--occupations with a romantic halo. How many children have conceived a passion for scientific research from reading Paul de Cruy! But economics, on the other hand, is a dull and tedious occupation: everyone knows all too well the kind of computations economists make.

Granted, discussion and even criticism will be permitted at the end of the Khrushchev era. But economic affairs were far from flourishing at that time. The level of interest inspired by this subject picked up when economists began to make use of the mysterious (and thus romantic) electronic brains. We saw a radical change, even if the competition for enrollment in the economics departments was not the most frantic. But our future Adam Smiths and Keyneses scarcely suspect what awaits them (I have talked with them). And you, dear reader, are doubtless prepared to admit--let us be straightforward about it--that economics is something important; but to go from there to say it is interesting...I am convinced you are skeptical of the title of my article. What kind of a detective story could there be in all these numbers, deficits, accounts and discrepancies?

These notes are not intended for the recent graduates of the Soviet schools (and it is a pity). Neither is it my intention to encourage people to go into the economics department; on the contrary, I should like to compete with Agatha Christie and tell you a story complete with mystery, investigation, crime, a spy and even the CIA (it cannot be doubted my story will also be read by the KGB).

My story began 15 years ago. At that time I was asking one of my relatives, a professor of physics, a question about the atom. With specialists, one is always better off talking about their pet subject. The same principle led him in turn to ask me about economic problems. He asked me, among other things, why the Soviet state budget was, so to speak, one of surplus, or more precisely, why budget revenue had always been--and still was--slightly greater, by several billion rubles, than expenditures.

"Well, it's not sorcery," I began to explain condescendingly. Physicists are very precise: he cornered me without having to resort to dialectical logic. He said he wanted to know how the surplus could be of use to the state: was it used as a reserve? If the money in the Soviet budget--and the money circulating generally throughout the country--had a gold equivalent, or in other words an equivalent in convertible currency (1), then the state might set aside the surplus money to cope with hard times. But what is in question is a paper ruble in every sense of the word, and beyond our borders that currency has no value anywhere. Moreover, the budget continues to have a surplus, even in lean years. (2)

Unable to answer him, I turned to one of my close friends--the one who had become an economist by profession. He knew nothing about it. Intrigued, we studied the matter together, with no more success. Absorbed in other concerns, I eventually forgot the problem.

In 1974, I emigrated; once in the United States, I decided to keep on with my profession, to pursue my studies of the Soviet economy, and to become a Sovietologist. The public knows even less about Sovietologists than about economists. (3) I will only go so far as to say that economist-Sovietologists concern themselves, among other things, with analyzing the USSR's military expenditures. We see it as one of the state's most jealously guarded secrets. Every year, there is an officially published list of the expenditures set aside for defense, but no one believes in their veracity. No one doubts that these figures are substantially understated. It seems to me that investigations in this area have been inadequate, and have not led to valid results.

Why should we be interested in this problem? Reasons abound. Military expenses are one of the biggest entries in the Soviet budget; consequently, without knowing the exact percent, it is difficult if not impossible to have a coherent concept of the Soviet state and the prospects for its economy. Under such conditions, how could one plan a commercial policy? Let us take an example. The Soviet Union insistently appeals for import financing facilities: in this case, one must certainly assess its ability to honor its obligation. (4)

The question of monitoring plays a decisive role in disarmament negotiations. Each side must be able to verify the implementation of the accords, and in this case one does not have to be an economist to understand that the more a country spends on weaponry, the more powerful it is from a military point of view.

Thirdly, at the end of the 40's, the Soviet foreign minister, Vishinsky--cursed be his name--made passionate speeches about the "pacifism" of Stalin's foreign policy. He asserted that Soviet military expenditures were a smaller percentage of the budget than those of the United States. Vishinsky "forgot" that the U.S. federal budget, unlike the Soviet budget, does not include the enormous expenditures devoted to economic development (these costs being borne by firms and companies [in the private sector]). If these expenditures were taken into account, the picture would have been very different from the official Soviet data--and radically different if the latter were fraudulent.

Not so long ago it was Gromyko who put forward a new peace initiative (5). "Well, now," he proposed, "let us come to an agreement that all countries reduce their

military expenditures by...let us say...10 percent." Magnificent, is it not? Anyone who would dare to raise his voice against such a proposal would immediately be labelled an aggressor and a warmonger...Gromyko's proposal is really marvelous... if one believes the official Soviet figures.

In the U.S., the Pentagon is getting more than \$100 billion per year; in the heated debates between the "doves" and the "hawks," it should be indispensable to be able to compare this fantastic sum with real Soviet military outlays. (6)

I hope I have clearly established why it was so important to determine the monetary value of Soviet military expenditures. But why did I say that this matter is not getting all the attention it needs and that research on it is unsatisfactory? A single fact is sufficient to prove the point. In all the abundant Western literature devoted to the Soviet economy, very few articles and only one recent book deal with the subject. Out of politeness I will abstain from expressing my opinion of that book.

In short, the experts agree on only one point: official Soviet publications substantially understate military expenses. By how much, no one can say. But the conclusion is simple: we do not know precisely how much money the USSR devotes to military ends.

According to Soviet publications, the military budget has not changed in the last 10 years. It always comes to 17 billion [rubles], while the total budget climbs irresistibly from year to year. Military expenditures as a percentage of the budget have thus apparently declined from 13 to 7. As a corollary, these outlays represent a still lower percentage of the national income, something on the order of 4 percent. This arouses our suspicion. On the one hand, it is implausible that such a small percentage of military outlays (the overall size of the Soviet economy is, moreover, quite clearly smaller than the American economy) could enable the USSR to be at present almost better equipped than the United States (7). And how does it happen that the total of military expenses has been able to remain constant while during the same period the Soviets have gone through several stages of arms modernization?

For many years, CIA economists maintained that the USSR's effective military expenditures were only slightly higher than the official figures, and were in the neighborhood of 25 billion rubles in the early 70's. But the Pentagon's experts showed that this sum was greatly underestimated. The CIA has recently revised its assessments, but they nevertheless remain far from realistic (8).

To explain in detail the whole complex of questions relative to this point would take too much space. So I will paint the picture in very broad strokes.

What is the problem in determining the real magnitude of Soviet military expenses? We have more or less reliable approximations for the number of men in the armed forces, and there is no doubt that the training of missile fodder is cheap at the price. Soviet soldiers, we know, do not cut a stylish figure; their fare is the most elementary, and they have only a few kopeks for cigarettes. The numerous officers are relatively well paid (by Soviet standards), but the maintenance of military personnel (including medical care and professional training) comes to a rather modest total, not more than several billion rubles per year. The bulk of the expenses are thus elsewhere: it is clear that the lion's share goes to armaments.

The Western countries publish data concerning their missiles, tanks, submarines, and airplanes; we also know how many of these devices the USSR has. It is not for nothing that satellites exist. Without them, by definition, no accord on arms limitation would be possible. It is by contrast very difficult to know the purchase price for each one of these units, and doubtless still more complex to assess the value of scientific research and development work, and to calculate how much is spent to produce and test experimental models. How does one go about getting a correct idea of what goes into the creation of modern defense systems? (9)

One possible approach rests on the assumption that expenses devoted to defense may be found within the strict confines of the budget. If their amount is intentionally understated, that means that part of it is camouflaged in other outlays. Consequently, if one examines the budget, setting aside everything that is for strictly peaceful ends, one will attain the desired figure. This method prevailed for many years. One therefore went into a minute analysis of all the available data concerning the Soviet budget. (10)

A thorough study shows that there is no room in the other budget entries for significant military applications. It is obvious that many outlays (particularly in the field of science and economics) are not for peaceful ends. (11) But that does not explain everything. The CIA's old estimates--rather modest--as to the overall size of the military budget were founded, if I am not mistaken, on that method.

Still another question remains unanswered after a serious study of the budget. I have already indicated that real military expenses should "change" from year to year in accordance with the armament modernization cycles. Since the official data remains constant over a long period of time, one must therefore deduce the existence of some kind of regulative element, but no trace of it can be found in reading the other budgetary headings. (12)

In 1975 I spoke again with Katsenelineboigene, another Soviet ex-economist. Today he teaches at the University of Pennsylvania. We conceive a new hypothesis. The real value of the total of the budgetary expenditures would be greater than the published figure. This "surplus" would constitute the regulative element covering the supplementary expenses carried out for military purposes.

This hypothesis is not inherently bad. There is only one "but": one would have to find where the Soviet budget draws its supplementary revenue. If one admits a priori that it is in reality in deficit, that expenditures are therefore greater than revenues, then this explanation runs headlong against all those official texts according to which each year the budget shows a net surplus of revenue over spending--in other words there is a budget surplus.

The enlightened reader might well think himself justified in criticizing me for taking Soviet publications seriously. A few words about that. I am not setting out here on a moral indictment of Soviet economists. Among them are people who are completely worthy of esteem. I am not a writer, but an economist. When I say that everything is more complex, I am speaking precisely as an economist. Soviet documents are not intended either for Sovietologists or for the skeptical readers of this article. Rather, in the first instance they are for Soviet

economists themselves. If they are provided false data, then quite simply how will they be able to work, and what will be the fruit of their zeal? Moreover, it would require the complicity of too many people in the nefarious distortion of Soviet economic figures: the secret would leak automatically, for one would still have to explain to the accomplices the purpose of the fakery. Every year thousands of deputies in the Supreme Soviet get budget documents. If they were more detailed than the official data, one might justly deduce that they contained information which we do not have. But this information could not be contradicted from A to Z in the journals. There is freedom to lie as long as one does it consistently; otherwise it will become an open secret. In economics, the figures are so closely tied that if one tinkers with one, without changing any of the others, everything collapses, and the deception is laid bare.

I do not mean that we should trust the Soviet statistics. We have seen and continue to see inconsistencies and flagrant untruths in them. For example, growth rates (13) are from all evidence altered in them, as are the figures on cost variations. (14) But more generally what one finds is the lie by omission (15), and also--if I may express myself thus--the methodological lie (16). This is why we Soviet-ologists discover an incredible quantity of "holes" in Soviet statistics. It is a question of filling them (we have already made a good start) and to do this we will resort to comparative analysis.

Ah yes! This was the heart of my discussion with Katsenelineboigene. But we had to abandon this debate because we did not get immediate results and neither he nor I were being paid (or are being paid) (17) to study the USSR's military expenses: we live in what is called the capitalist society and not in the USSR, where science, by one famous definition, is a means of satisfying one's personal curiosity at the expense of the state.

Some time afterward, I came upon a very interesting CIA publication on the Soviet economy. (18) My attention was attracted by what has intrigued Western Specialists for ages--and which I myself had somewhat ignored. In all Soviet publications, one must decipher the expenditures and revenues of the budget. Once this decoding is performed, there still remains--if one totals up the revenues coming from the populace and from the nationalized enterprises--an enormous and growing gap almost impossible to explain. Not wanting to bore the reader, I will only say that in 1978, for example, this imbalance, or in other words the secret budget revenue, amounts to 50 billion rubles. An enormous sum, almost equal to one-fourth of total budget revenue, almost triple the direct taxes levied on the population (19) and also triple the official expenses reserved for defense (20). What makes up such a sum?

This enigma of the Soviet budget captivated me. I had to think, to plunge into Soviet literature on this subject, make computations. My labors led to a report which I submitted to the U.S. Commerce Department. It turned out that this enigma was linked to the undisclosed military expenses. But before going into this point, I must make another digression.

Washington, where I work, is a cosmopolitan city. One can meet all sorts of people there. Not long ago I came upon a Soviet economist. "Listen, Citizen

Birman," he said to me, (I do not know why, but the word "Citizen" always puts me a bit ill at ease, while "Mister" completely satisfies me), "Have you ever asked yourself (suddenly addressing me in the formal mode) if from an ethical point of view your present concerns are not somewhat misplaced? They are directed against a country where you were born, where you were educated, where you lived for many years. How does it happen that you have become a Sovietologist?" I had an answer to his question.

It would be enough to invoke the name of Einstein. Without his letter to Roosevelt, there would have been no Manhattan Project; Einstein, permit me to remind you, was born and schooled in Germany, and his bomb was not originally intended for Japan. One might also mention the famous poetry of Tchoukhontsev where he explains how Ivan forced Kourbaki to ally himself with Russia's enemies. I make use of these examples to establish a difference between a country and a regime which rules there, but I could also answer without any examples.

As an economist I do not think myself indebted in any way to that large and unfortunate country. My parents worked conscientiously all their lives; and they never accumulated any capital, either. I went to school there, but I also worked--and not so badly, since I was twice nominated for the State Prize and my books are still used as a reference. And finally, I was not allowed to take anything but my own works with me, and I still have not received permission to take all of them.

On the other hand, I have contracted a real debt toward the great country where I am now residing, a country which I am in no way idealizing. It is of my own free will that I chose to live here. Three of my children are pursuing their studies here; my affluence, and the happiness of my children are in a way advance that it has given me.

From a strictly ethical point of view, I could have said many other things as well. That many people believe in the cosmopolitan ideal. That I did not carry out with me any secret buried in a cassette. That there is nothing secret about my work, that I have nothing to hide and am not ashamed of my activities. That if I unmask the secrets of the Soviet regime, I do so on the basis of the Soviet literature itself. That now, in all seriousness, it is high time to talk about the purpose of the crime as I promised at the start of my story. For if the Soviet leaders continue their frenetic arms race, while the Soviet people and the CIA remain unaware of its real scope, if they persist in making cannons and bombs instead of producing butter, meat, and potatoes, then the genocide of humanity is unavoidable. The devil with secrets! I am helping humanity as best I can, and by the same token I am rendering a service to the nation where I was born but of whose future I have despaired, because of which I have left it forever. That is all I have to say to you, Mr Soviet Economist.

Yet one final digression. About 2 years ago, one could read in the WASHINGTON POST an article by a certain Joseph Oleop, a very well-known, in other words credible, journalist. The story was told in impassioned tones and evidenced an astonishing imagination. Shortly before its appearance, a former Gosplan collaborator reportedly arrived in the West. Gifted with an exceptional visual memory (You see? James Bond or Major Pronine would be right at home), he had chanced upon the military

budget while at Gosplan. The "special services", it goes without saying, became interested at once in his case. They interrogated him at length...His story appeared to be implausible. He was made to undergo lie detector tests. Then military counter-espionage, which is a rival of the CIA, got wind of the affair, and its head talked with our man, who had to undergo another lie detector test. The results were the same. Why tell you all this? I am not envious of Joseph Oleop; his detective story is much more enchanting than my own. But, here we are, I promised you a spy and: he is there...If one watches closely, that story contains a wealth of lessons, in two respects. First of all, there is no Soviet military budget as such, no one has need of it. Defense spending is composed of items earmarked for a number of different authorities. It is highly improbable that one could total them up. This complicates our task all the more. Secondly, and this is still more important: even if one admits that such a budget exists, and that one of "our people" once got the chance to set eyes on it, some concrete figures in it would be very interesting, but the following year they would inevitably have lost all value. If I understand the problem (it is not only a question of finding the true value of Soviet military spending), one must above all have not the figures but the system. Once one succeeded in establishing that, one could interpret the numbers in a particular way, taking into account concrete financial mechanisms. It will no longer be necessary to resort to lie detector tests and other detective story paraphernalia.

We stopped at the point in 1976 where the unknown budget revenues had reached about 50 billion rubles.

Sifting through various reference works and the specialized literature, I found almost 9 billion rubles that came from the budgets of the various republics, returns on various investments, local [tax] collections, etc. Notice: the remaining balance of the allotted resources, in other words money which for one reason or another has not been spent, is then carried over as revenue for the budget of the following year.

I have already emphasized that the Soviet ruble was not convertible: there is no international market for it. There are excellent reasons behind this decision. One of them touches on our theme: the marginalization of the ruble makes it possible to maintain completely artificial prices for products. Books are cheap (except for the samizdat), public transport, housing too; clothes, oranges, shoes, tobacco, are horribly expensive, as well as what are called durable goods (the automobile is one example). Thus the state can buy cheaply abroad and sell very dearly in the USSR. Thanks to the price differential, there is a tidy little profit. In juridical language, this is called speculation. The Soviet citizen is prosecuted for this kind of crime, but the state can indulge itself in it with impunity. The profits it squeezes out of it are, to say the least, substantial.

Experts on the subject are not unaware of this operation. The only unknown is the exact total: in the field of foreign trade, many things turn out to be secrets. I was able to establish, with the help of the available statistics and some calculations made by Western experts (in particular those of B. Kostinski and V. Tremlija) that this profit had gradually climbed to the 20 billion more to get to 50 billion. Attentive observers and, above all, the ordinary Soviet citizens who willy-nilly are faced with the problem, are incontestably aware of the fact that prices in the USSR are increasing, that therefore there is inflation. According to the dictionary

definition, "inflation is an excessive growth of bank-notes which results in a depreciation of the currency." Naturally, Soviet journals do not speak of it (yet another example of the lie by omission), but it is clear that inflation is really and truly there. What is less clear, by contrast, is the basis of this inflationary pressure and the advantages it has for the government. Nonetheless, upon reflection, several conclusions cannot be avoided (21). According to the most modest estimates, the monetary surplus for the last 15 years represents about 50 billion rubles, a sum which the Soviets are obliged to hoard because of the scarcity of consumer goods.

To this amount must be added some 130 billion rubles deposited in the savings banks, 5 billion for loans at 3 percent, and 20 billion for the obligations on "old loans" on which repayment is only just beginning (without interest, naturally). The total of this money hoarded by the populace should in principle have gone to pay for the various products and services provided by the state. Thus, the public debt amounts to close to 200 billion rubles. Which means, decoded, that savings amount precisely to the equivalent of 8 months of the wages of the entire population, or put another way 3.5 times the value of the consumer goods now on the market or stocked in the industrial warehouses. If ever the population came to spend half of its savings, catastrophe would be inevitable. The implications of such an excessive accumulation of capital are many. In the case at hand, putting superfluous currency into circulation translates into budgetary profit; Goznak's production of paper money (22) makes a contribution of at least 3 to 5 billion rubles to the budget every year. We are still far from the 20 billion which is the goal of our inquiry, but we are going to get there without delay.

Paper money constitutes only a relatively small part of the total of floating capital. Transactions between the state and the population constitute less than 10 percent of the country's monetary circulation, most of the movement arising from transactions between the state and the enterprises, and between the enterprises themselves. It is what is called the floating of monetary "entries" [lit: de monnaie "scripturale"]: transactions are carried out only on paper.

But in substance we are dealing with a much more complex mechanism. Indeed, it would be inconceivable for a bank to release at will billions of rubles to cover the needs of a particular enterprise, in defiance of the elementary laws governing the commercial balance; one must therefore start out with some preliminary efforts at verification, unless one wants to provoke serious economic problems. In other words, the existence of surplus currency--whether paper or ledger entry--will always entail inflation or an analogous phenomenon. To be perfectly clear, a bank cannot (and should not) release more money than it has. With one near-exception, all the same: it may extend certain amounts in credit which it does not have immediately available but which it "advances" in anticipation of its entries to come. We are looking at a financial operation which has experienced extensive growth: over the last 15 years, the overall total of bank credits has quintupled.

In itself, the credit system is in no way abnormal, the world economy rests on it. A Wall Street loan shark told me one day: "Bankers are merchants like any others, with the difference that they are not quite selling money itself: their merchandise is money on credit." But what is mind-boggling about the Soviet economy is

the overall total of allocated credit—that is, the extent of the indebtedness of the enterprises to the banks—which in fact is even greater than the stupendous figure of 250 billion rubles. How much money could our shark loan out? Not more than he has. An obvious fact: one which, however, escapes Soviet economists. One need read only a few specialized works to realize to what an extent the question of the regulation of credit remains murky for them, even when viewed simply from a theoretical point of view. So the dance of credit continues without anyone beating himself on the head. (23).

The sizable and practically uncontrolled augmentation of credit (that is, the quantity of surplus money in circulation) has disorganized the circulation of ledger-entry money and consequently the economic life of the country, but this is not all. The enterprises have not been the only ones to benefit from the ever larger bank credits. If one has followed my analysis closely, it appears clear that, starting in the pre-war years, the state budget has enjoyed increasing assistance from the banks, assimilable to a credit (or to a loan) the total amount of which constitutes the mysterious profit we were trying to discover. For 1978, this "aid" amounts to nearly 15 billion rubles.

There, in sum, lies the whole mystery. If I were writing an economic article addressed to experts, it would be appropriate to conclude here. But my readers do not make their living studying the Soviet economy and finances, so I must add a few clarifications and explanations. (24)

It is time, first of all, to answer the question of our physicist. I recall that he did not understand why each year's budget revenues were greater than expenditures. Such an excess covers sums that were allocated but for some reason not spent (I have already spoken of the budgets of the various republics). But each year, one appropriates (schedules as a portion of expenditures) more resources than there are revenues: even if one takes these remainders into account, real budget spending is always greater than real revenue. In other words, the Soviet state budget is permanently in deficit; the size of this deficit grows each year. The fact that this deficit may be covered (it would doubtless be preferable to say "transformed") by bank credits is of little importance. In reality, these credits are of the same order as those accorded to the enterprises of which I have already spoken. It is therefore not only the state budget, but the entire financial system, which is in deficit: one spends more than one has...

This budgetary deficit, it must be said, is completely acceptable if one uses it at precise moments, for a limited period, and with discretion: the western states themselves also resort to this subterfuge. But here, no limits are placed on it. The traditional deficit of the Soviet budget (including that of the enterprises) goes beyond the acceptable limits, by any standards.

The consequences leap to the eye. Problems are multiplying, and Russia at present can no longer manage without grain imports: industrial growth rates are lower and lower (there was a time when they were the pride of Soviet leaders). The situation in transport and fuel is approaching a state of crisis; the gap separating the real standard of living of the citizen and that which the USSR's contemporary technology and limitless natural resources could offer him continues to grow.

This is of capital importance. The critical financial situation in which the USSR is floundering is, so to speak, the consequence of serious economic failures; the disarray of the financial system and the enormous debt of the state (25) further erode the economic situation. The radical inadequacies of the industrial system are more and more obvious and lead unavoidably--if one is not afraid to call a spade a spade--to catastrophic consequences. There exists, moreover, a precise definition of the consistent vice of spending more than one has (or than one earns), in economic language, and in daily life: it is called bankruptcy.

I will be told that in the West, where both inflation and budgetary deficit are being experienced, people are not faring so badly. This is true. But no one ignores the seriousness of inflation and too large a budgetary deficit. During the crisis which followed the sharp escalation of oil prices, the danger was clearly perceived, and inflation began to lessen. The increase in oil prices there encouraged inflation and also depression. In the USSR, the situation is radically different; the Soviet economy has discharged part of the oil price increase on the international market. But at the same time inflation there was accelerated. One must therefore look for permanent and underlying causes, not merely circumstantial ones.

Let us return to military spending. Our problem was that we could not find where to insert all these expenses into the budget. Our earlier assumption was that there could not be extra-budgetary military spending. Now let us widen our angle of vision. As we have shown, budget spending is not limited to these real revenues; one systematically spends more, simply by scribbling an additional 15 billion into the budget. Do you understand? If this is so, there is nothing to prevent the Soviet leaders from doing the same with much larger sums and making military expenditures, above the budget, without covering them with real revenue.

Put another way, we can and should calculate military outlays by discarding the assumption that the latter are more or less limited by the strict confines of the budget. Our semi-intuitive ideas (which does not mean false ideas) about the cost of the huge forces and materiel are not inconsistent, in theory, with actual calculations based on the budgetary data.

I titled my narrative an "Economic Detective Story." We see before our eyes the crime and the culprits. Soviet leaders spend sizable sums for military ends, to the detriment of the scandalously low standard of living of the Soviet population. By so doing, they disturb the economy of the country and threaten world peace. For justice to triumph, it is first of all essential to unmask this lie in all its scope and next to punish those responsible.

FOOTNOTES

1. One of our friends, a recent emigrant, complains that he is unable to get used to the idea of using currency even to pay for potatoes.
2. In IZVESTIA of 15 December 1977 one can read that in 1976, which was far from being the Soviet economy's best year, the surplus of budgetary revenue over expenditures was 5.5 billion rubles.

3. It has been solidly impressed upon us that the basic occupation of Soviet-ologists was anti-Soviet propaganda. It goes without saying that they are all found to be in the power of the Western espionage services. As for myself, I have had occasion to meet a number of Sovietologists who are convinced socialists. One of them told me proudly that he had gone to Chile to be an adviser to Allende. In the U.S. Department of Commerce I recently recognized a Hungarian Soviet-ologist. He had established a certain number of contacts and kept himself informed on our work while also keeping us abreast of his own. I seriously doubt that either one of them is in the service of the "secret services." Moreover, they are not involved in any degree whatsoever in "anti-Soviet propaganda."
4. When I wanted to buy myself a house, I asked for a loan of \$50,000 at my bank. The bank exhaustively verified my income, my family situation, and my solvency. But the USSR, which requires credits reaching into many billions of dollars, wants to be taken at her word: the economy is going to get healthier and healthier and will be solvent. Moreover, for my own loan I must pay the principal back with interest of more than 9 percent per year. At that rate of interest, the bank makes a profit on my account. The USSR would like to get much lower interest rates.
5. This has become so frequent at the present time that in journalistic and political jargon the word "initiative" has come to be used in the plural.
6. One caveat must be made: direct comparison of the ruble with the dollar is practically impossible. Such comparisons constitute a very complex problem all on its own.
7. There are different opinions on this point, particularly as the balance is different in various categories of arms. Overall, nearly all the experts concur in recognizing the essential military parity of the two superpowers.
8. During a U.S. Senate hearing in June 1977, Admiral Turner, the director of the CIA, stated that Soviet military expenditures must be on the order of 50 to 60 billion rubles. General Wilson, the chief of Army counterintelligence, referring to a Beijing journal, maintained, however, that the amount varied between 60 and 70 billion rubles. (Hearings before the subcommittee. Congress of the United States. Ninety-fifth Congress. First Session. Part 3. June 23 and 30, and July 6, 1977).
9. I constantly digress. But this latter is really important. I recall that in Moscow once again we felt that detente was indispensable to the USSR from the economic point of view and that a continuance of the arms race would leave the country without a kopek. The famous journeys of Mr Nixonger (Nixon-Kissinger-NDT (translator's note) led to the conclusion of some accords, but the USSR is intensifying the production of arms not covered in those accords. Consequently, the USSR has not taken advantage of the opportunity to reduce the burden. In my opinion (I cannot be completely sure), the explanation is the following: thanks to detente, the USSR was able to avoid bleeding itself white to build up its defenses. One needs less resources to set up attacking systems, and it is still able to do.

10. Determining the order of magnitude of defense outlays is itself only one of the objects of analysis of the budget, an undertaking which itself is in turn indispensable for any study of the Soviet economy.
11. Assessments by Western specialists show that at least half of Soviet scientific research is linked to military objectives. New enterprises for the production of military technology are constructed, while obsolete factories are restored to the detriment of the national economy.
12. Popular term to designate any enterprise which even remotely touches on research or production that could be used for military ends. This notion can be expanded considerably and goes from top-secret factories to those producing spare parts (NDT).
13. It must be noted that in recent years the figures on growth rates have become lower and lower, and even if they are deceptive, they are not so far from the truth.
14. To believe the official data, retail prices in 1976 were just slightly lower than in 1965. This lie is so flagrant it is pointless to discuss it.
15. No data is published on vodka production, spending on space research, the number of accidents and fires, on the overhead costs of the Ministry of the Interior, or of the KGB. This list is far from being exhaustive.
16. The most prevalent procedure is not to specify the methodology: you simply have to guess. This makes it possible to dissemble something which would otherwise have to be acknowledged. One of the most celebrated examples is that of the harvest figures under Stalin. They were published without specifying that they referred to "standing crops" and not to "stored" harvests. In many cases, figures are published with parts missing, so that in other words their sum does not equal the grand total.
17. Thinking along the lines of the assumptions of Soviet propaganda, the consortiums of arms producers, "the merchants of death," should find it in their interest to prove the immensity of Soviet military expenses: that would help them get more consisting funding from their respective parliaments. It turns out once again that the assumptions of Soviet propaganda are not valid.
18. Central Intelligence Agency, "USSR: Gross National Product Accounts, 1970," November 1975.
19. The total of indirect imposts levied on the population is clearly greater than direct contributions. They presently reach a level of 70 billion rubles per year.
20. I have avoided making references in this article to specific articles in the Soviet press, but almost all the figures I have used (except, of course, those which are intentionally omitted) are found in the manuals of Soviet statistics.

21. Professor Gertrude Shrouder of the University of Virginia and one of the greatest experts on the Soviet economy, Rach Grinsleid, who died in 1978, both gave me invaluable assistance in this work.
22. Soviet equivalent of the Bank of France for the issuance of paper money (NDT).
23. Here, it is not a question of the total of credits authorized to each enterprise individually, for in individual cases the standards are rather strict, but of the total for all the enterprises.
24. In the 60's, I twice had the opportunity to meet with Finance Minister A.G. Zverev, who remained in the position for 20 years, starting at the end of the 30's. I found his intellectual mediocrity and lack of professionalism striking. Why then such a career? In all probability, it was he who proposed the scheme (someone must have whispered it in his ear) and it worked. All the same, does it work to any good end?
25. It must be made clear that in addition to its internal debt, the country is even in debt in its foreign trade.

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